City and County of San Francisco
Office of Contract Administration
Purchasing Division
City Hall, Room 430
1 Dr. Carlton B. Goodlett Place
San Francisco, California 94102-4685

Agreement between the City and County of San Francisco and Auction Exchange Inc. DBA Bar None Auction TC68336 [PS Contract ID 1000034294]

This Agreement is made this first day of October 2024, in the City and County of San Francisco ("City"), State of California, by and between Auction Exchange Inc., dba Bar None Auction ("Contractor" or "Bar None") and City.

Recitals

WHEREAS, the Office of Contract Administration ("Department") wishes to procure on behalf of City access to Self Service Auction Services from Contractor; and

WHEREAS, Contractor represents and warrants that it is qualified to perform the Services required by City as set forth under this Agreement; and

WHEREAS, Contractor was competitively selected pursuant to a Request for Proposals ("RFP") entitled As-Needed Citywide Auction Services for Disposal of City Owned Vehicles and Heavy Equipment issued through Sourcing Event ID 0000009684 and from which Contractor was selected as the highest rank proposer; and

WHEREAS, approval for the Agreement was obtained on July 15, 2024 from the **[**Civil Service Commission under PSC number DHRPSC000464 in the amount of $1,300,000 for the period of 60 months; and

WHEREAS, the Department has filed Ethics Form 126f2 (Notice of Submission of Proposal) because this Agreement has a value of $100,000 or more in a fiscal year and will require the approval of the Board of Supervisors; and

WHEREAS, the Department has filed Ethics Form 126f4 (Notification of Contract Approval) because this Agreement has a value of $100,000 or more in a fiscal year and will require the approval of the Board of Supervisors; and

WHEREAS, the City's Board of Supervisors will be requested to retroactively approve this Agreement for the period commencing October 1, 2024 and ending September 30, 2029 by Resolution and this Agreement will be amended to incorporate details pertaining to said Resolution once approved; and

Now, THEREFORE, the parties agree as follows:

Article 1 Definitions

The following definitions apply to this Agreement:

1.1 "Agreement" means this contract document, including all attached appendices, and all applicable City Ordinances and Mandatory City Requirements specifically incorporated into this Agreement by reference as provided herein.

1.2 "Asset" means any item offered by the Seller and sold by the Contractor on behalf of the Seller.

1.3 "Bill of Sale" means a certificate that documents the transfer of City's Assets by Contractor.

1.4 "Buyer" means any bidder registered with the Contractor

1.5 "Buyer's Premium" means the fee added to the auction price to determine the final price of an Asset should City elect to have a Buyer pay the Contractor's fees for the sale of City's Assets.

1.6 "City" means the City and County of San Francisco, a municipal corporation, acting by and through both its Director of the Office of Contract Administration or the Director's designated agent, hereinafter referred to as "Purchasing" and Office of Contract Administration.

1.7 "City Data" means that data as described in Article 13 of this Agreement which includes, without limitation, all data collected, used, maintained, processed, stored, or generated by or on behalf of City in connection with this Agreement. City Data includes, without limitation, Confidential Information.

1.8 "CMD" means the Contract Monitoring Division of the City.

1.9 "Commission" means the fee due to Contractor for the sale of City's Assets.

1.10 "Confidential Information" means confidential City information including, but not limited to, personal identifiable information ("PII"), protected health information ("PHI"), or individual financial information (collectively, "Proprietary or Confidential Information") that is subject to local, state or federal laws restricting the use and disclosure of such information, including, but not limited to, Article 1, Section 1 of the California Constitution; the California Information Practices Act (Civil Code § 1798 et seq.); the California Confidentiality of Medical Information Act (Civil Code § 56 et seq.); the federal Gramm-Leach-Bliley Act (15 U.S.C. §§ 6801(b) and 6805(b)(2)); the privacy and information security aspects of the Administrative Simplification provisions of the federal Health Insurance Portability and Accountability Act (45 CFR Part 160 and Subparts A, C, and E of part 164); and San Francisco Administrative Code Chapter 12M ("Chapter 12M"). Confidential Information includes, without limitation, City Data.

1.11 "Contractor" means Auction Exchange Inc., dba Bar None Auction.

1.12 "Deliverables" means Contractor's or its subcontractors' work product, including any partially-completed work product and related materials, resulting from the Services provided by Contractor to City during the course of Contractor's performance of the Agreement, including without limitation, the work product described in the "Scope of Services" attached as Appendix A.

1.13 "Lot Sale" means an individual Asset or group of Assets offered for sale as a single unit.

1.14 "Mandatory City Requirements" means those City laws set forth in the San Francisco Municipal Code, including the duly authorized rules, regulations, and guidelines implementing such laws that impose specific duties and obligations upon Contractor.

1.15 "Party" and "Parties" means the City and Contractor either individually or collectively.

1.16 "Revenue" shall mean the total value of the proceeds payable to City by Contractor after deducting any fees or commissions, if any.

1.17 "Seller" means any City department, agency or division electing to receive auction services under this Agreement.

1.18 "Services" means the work performed by Contractor under this Agreement as specifically described in the "Scope of Services" attached as Appendix A, including all services, labor, supervision, materials, equipment, actions and other requirements to be performed and furnished by Contractor under this Agreement.

Article 2 Term of the Agreement

2.1 **Term.** The term of this Agreement shall commence on October 1, 2024 and expire on September 30, 2029, unless earlier terminated as otherwise provided herein.

2.2 **Reserved.**

2.3 **Reserved.**

Article 3 Financial Matters

3.1 **Certification of Funds; Budget and Fiscal Provisions.**

3.1.1 **Termination in the Event of Non-Appropriation**. This Agreement is subject to the budget and fiscal provisions of Section 3.105 of the City's Charter. Charges will accrue only after prior written authorization certified by the Controller, and the amount of City's obligation hereunder shall not at any time exceed the amount certified for the purpose and period stated in such advance authorization. This Agreement will terminate without penalty, liability or expense of any kind to City at the end of any fiscal year if funds are not appropriated for the next succeeding fiscal year. If funds are appropriated for a portion of the fiscal year, this Agreement will terminate, without penalty, liability or expense of any kind at the end of the term for which funds are appropriated. City has no obligation to make appropriations for this Agreement in lieu of appropriations for new or other agreements. City budget decisions are subject to the discretion of the Mayor and the Board of Supervisors. Contractor's assumption of risk of possible non-appropriation is part of the consideration for this Agreement.

THIS SECTION CONTROLS AGAINST ANY AND ALL OTHER PROVISIONS OF THIS AGREEMENT.

3.1.2 **Maximum Costs**. City's payment obligation to Contractor cannot at any time exceed the amount certified by City's Controller for the purpose and period stated in such certification. Absent an authorized emergency per the City Charter or applicable Code, no City representative is authorized to offer or promise, nor is City required to honor, any offered or

promised payments to Contractor under this Agreement in excess of the certified maximum amount without the Controller having first certified the additional promised amount and the Parties having modified this Agreement as provided in Section 11.5, "Modification of this Agreement."

3.2 **Authorization to Commence Work**. Contractor shall not commence any work under this Agreement until City has issued formal written authorization to proceed, such as a purchase order, task order or notice to proceed. Such authorization may be for a partial or full scope of work.

3.3 **Compensation.**

3.3.1 **Calculation of Charges and Contract Not to Exceed Amount.**

(a) Contractor shall be entitled to a Commission for the sale of City's Assets. Contractor's Commission shall be paid in accordance with Appendix B. For each Asset to be auctioned by Contractor, City shall elect to have Contractor's Commission be paid by City or the Buyer through a Buyer's Premium. If City elects to pay Contractor's Commission, Contractor will remit to City the total payment received from the Buyer, less Contractor's Commission. If City elects to have a Buyer pay Contractor's Commission, Contractor will remit to City the total payment received from the Buyer, less the Buyer's Premium.

3.3.2 **Payment Limited to Satisfactory Services.** Contractor is not entitled to any payments until City approves the Services delivered. Payments to Contractor by City shall not excuse Contractor from its obligation to replace the unsatisfactory Services even if the unsatisfactory character was apparent or could have been detected at the time such payment was made..

3.3.3 **Withhold Payments.** If Contractor fails to provide the Services in accordance with Contractor's obligations under this Agreement, City may withhold any and all payments due to Contractor until such failure to perform is cured, and Contractor shall not stop work as a result of City's withholding of payments as provided herein.

3.3.4 **Reserved.**

3.3.5 **Reserved.**

3.3.6 **Getting paid by City for Services.**

(a) City utilizes a commercial product through its banking partner to pay City contractors electronically. If applicable, Contractor shall sign up to receive electronic payments to be paid under this Agreement. To sign up for electronic payments, visit SF City Partner at sfgov.org.

(b) At the option of City, and if applicable, Contractor may be required to submit invoices directly in the City's financial and procurement system. Refer to https://sfcitypartner.sfgov.org/pages/training.aspx for more information.

3.3.7 **Reserved.**

3.3.8 **Payment Terms.**

(a) **Payment due by Contractor to City.** Unless requested otherwise by City, Contractor shall submit payments to City using a check made out to the City and County of San Francisco. Payment shall be sent to the contract information provided by City to Contractor for the sale of an Asset.

(b) **Payment Due Date**: Except where title cannot be cleared due to issues beyond Contractor's control, City shall be entitled to Revenues from the sale of an Asset no more than twenty (20) business days. Payment to the City for Assets successfully sold must be made no later than thirty (30) Calendar days from the time and date of the close of the auction. Payments not received by the City within thirty (30) calendar days after such amount becomes due shall bear interest at 5% from and after the date said payment was due until the date paid.

(c) **Reserved.**

3.4 **Audit and Inspection of Records**. Contractor agrees to maintain and make available to City, during regular business hours, accurate books and accounting records relating to its Services. Contractor will permit City to audit, examine and make copies of such books and records, and to make audits of all invoices, materials, payrolls, records or personnel and other data related to all other matters covered by this Agreement, whether funded in whole or in part under this Agreement. Contractor shall maintain such data and records in an accessible location and condition for a period of not less than five years after final payment under this Agreement or until after final audit has been resolved, whichever is later. The State of California or any Federal agency having an interest in the subject matter of this Agreement shall have the same rights as conferred upon City by this Section. Contractor shall include the same audit and inspection rights and record retention requirements in all subcontracts.

3.5 **Submitting False Claims**. The full text of San Francisco Administrative Code Section 21.35, including the enforcement and penalty provisions, is incorporated into this Agreement. Any contractor or subcontractor who submits a false claim shall be liable to City for the statutory penalties set forth in that section.

3.6 **Reserved.**

3.7 **Reserved.**

Article 4 Services

4.1 **Reserved.**

4.2 **Term Agreement – Indefinite Quantities.** This is a term, indefinite quantities Agreement to supply the Services identified in this Agreement. Unless otherwise specified herein, Services will be required in quantities and at times as ordered during the period of the Agreement. Estimated Services are approximate only. City, in its sole discretion, may purchase any greater or lesser quantity. Purchasing may also make purchases from other suppliers when Purchasing determines, in its sole discretion, that the City has an immediate need for the Services or that it is not practical to purchase against this Agreement. City will not honor minimum order charges under this Agreement.

4.3 **Qualified Personnel**. Contractor represents and warrants that it is qualified to perform the Services required by City, and that all Services will be performed by competent personnel with the degree of skill and care required by current and sound professional procedures

and practices. Contractor will comply with City's reasonable requests regarding assignment and/or removal of personnel, but all personnel, including those assigned at City's request, must be supervised by Contractor. Contractor shall commit sufficient resources for timely completion within the project schedule.

4.4 **Services.**

4.4.1 **Awarded Services.** Contractor agrees to perform the Services stated in Appendix A, "Scope of Services." Officers and employees of the City are not authorized to request and City is not required to compensate for Services beyond those stated. If, during the term of the Agreement, a contract service is determined to be unacceptable for a particular department, and such is documented by Purchasing, Contractor agrees that the service will be canceled and removed from the Agreement without penalty to City. City's sole obligation to Contractor is payment for Services performed prior to the cancellation date. City shall give Contractor ten (10) days' notice prior to any cancellation. City will contract for the required service from any source and in the manner as determined by Purchasing. Contractor must notify Purchasing in writing, which can include email, certified mail, or other trackable mail, thirty (30) days in advance of any changes in the Services required in the Agreement. Any changes made without the approval of Purchasing will constitute a Default.

4.4.2 **Reserved.**

4.4.3 **Independent Contractor; Payment of Employment Taxes and Other Expenses.**

(a) **Independent Contractor**. For the purposes of this Section 4.4, "Contractor" shall be deemed to include not only Contractor, but also any agent or employee of Contractor. Contractor acknowledges and agrees that at all times, Contractor is an independent contractor and is wholly responsible for the manner and means by which it performs the Services and work required under this Agreement. Contractor, and its agents and employees, will not represent or hold themselves out to be employees of City at any time. Contractor shall not have employee status with City, nor be entitled to participate in any plans, arrangements, or distributions by the City pertaining to or in connection with any retirement, health or other benefits that City may offer its employees. Contractor is liable for its acts and omissions. Contractor shall be responsible for all obligations and payments, whether imposed by federal, state or local law, including, but not limited to, FICA, income tax withholdings, unemployment compensation, insurance, and other similar responsibilities related to Contractor's performing Services and work, or any agent or employee of Contractor providing same. Nothing in this Agreement shall be construed as creating an employment or agency relationship between City and Contractor or any of its agents or employees. Contractor agrees to maintain and make available to City, upon request and during regular business hours, accurate books and accounting records demonstrating Contractor's compliance with this Section. Should City determine that Contractor is not performing in accordance with the requirements of this Section, City shall provide Contractor with written notice of such failure. Within five (5) business days of Contractor's receipt of such notice, and in accordance with Contractor policy and procedure, Contractor shall remedy the deficiency. Notwithstanding, if City believes that an action of Contractor warrants immediate remedial action by Contractor, City shall contact Contractor and provide Contractor in writing with the reason for requesting such immediate action.

(b) **Payment of Employment Taxes and Other Expenses.** Should City, in its discretion, or a relevant taxing authority such as the Internal Revenue Service or the State Employment Development Division, or both, determine that Contractor is an employee for purposes of collection of any employment taxes, the amounts payable under this Agreement shall be reduced by amounts equal to both the employee and employer portions of the tax due (and offsetting any credits for amounts already paid by Contractor which can be applied against this liability). City shall then forward those amounts to the relevant taxing authority. Should a relevant taxing authority determine a liability for past Services performed by Contractor for City, upon notification of such fact by City, Contractor shall promptly remit such amount due or arrange with City to have the amount due withheld from future payments to Contractor under this Agreement (again, offsetting any amounts already paid by Contractor which can be applied as a credit against such liability). A determination of employment status pursuant to this Section 4.4 shall be solely limited to the purposes of the particular tax in question, and for all other purposes of this Agreement, Contractor shall not be considered an employee of City. Notwithstanding the foregoing, Contractor agrees to indemnify and hold harmless City and its officers, agents and employees from, and, if requested, shall defend them against any and all claims, losses, costs, damages, and expenses, including attorneys' fees, arising from this Section..

4.4.4 **Reserved.**

4.5 **Reserved.**

4.6 **Assignment.** The Services to be performed by Contractor are personal in character. This Agreement may not be directly or indirectly assigned, novated, or otherwise transferred unless first approved by City by written instrument executed and approved in the same manner as this Agreement. Any purported assignment made in violation of this provision shall be null and void.

4.7 **Reserved.**

4.8 **Reserved.**

4.9 **Surety Bond**.

4.9.1 In accordance with California Civil Code, Section 1812.600, every auctioneer and auctioning company shall maintain a bond in the principal sum of $20,000 issued by a surety company admitted to do business in California. A copy of the bond shall be filed with the Secretary of State.

4.9.2 In accordance with California Vehicle Code, Section 11700-11740, before a dealer license is issued or renewed, the applicant shall procure and file a bond in the amount of $50,000 with the Department of Motor Vehicles.

4.10 **Reserved**.

4.11 **Annual Usage Reports by Contractor.**

4.11.1 Annually no later than February 15 and upon request, Contractor shall prepare and submit to City an electronic report in Microsoft Excel or CSV format identifying the Services rendered under this Agreement (“Usage Report”).

4.11.2 The Usage Report must detail all Services performed by Contractor as of the Contract start date through December of the calendar year directly preceding the date of the report.

4.11.3 The Usage Report shall include, at a minimum, the data identified in Appendix A, Scope of Work, under "Record Keeping.".

4.11.4 Upon request, Contractor must also furnish a separate Usage Report for Services delivered to City which are not part of this Agreement.

4.11.5 Contractor shall email is Usage Reports to OCAVendor.Reports@sfgov.org.

4.11.6 Any report files larger than 10MB must be submitted in electronic format on USB drive and mailed to the address shown below with the term Agreement number and "Annual Supplier Reporting" clearly marked on the envelope/packaging. Contractor shall mail the reports to:

OCA Supplier Reporting
Re: Term Contract No. 68336
City and County of San Francisco
Office of Contract Administration – Purchasing
City Hall, Room 430
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4685

4.11.7 City reserves the right to terminate this Agreement if information requested from and submitted by Contractor fails to satisfy City and/or Contractor is unable to provide the information and/or documentation within the period requested.

Article 5 Insurance and Indemnity

5.1 Insurance.

5.1.1 **Required Coverages.** Without in any way limiting Contractor's liability pursuant to the "Indemnification" section of this Agreement, Contractor must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

(a) Commercial General Liability Insurance with limits not less than $1,000,000 each occurrence for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations.

(b) Commercial Automobile Liability Insurance with limits not less than $1,000,000 each occurrence, "Combined Single Limit" for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.

(c) Workers' Compensation Liability Insurance, in statutory amounts, with Employers' Liability Limits not less than $1,000,000 each accident, injury, or illness.

(d) Reserved.

(e) Technology Errors and Omissions Liability Insurance, with limits of $1,000,000 for each claim and each loss. The policy shall at a minimum cover professional misconduct or lack of the requisite skill required for the performance of Services defined in this Agreement and shall also provide coverage for the following risks:

(i) Network security liability arising from the unauthorized access to, use of, or tampering with computers or computer systems, including hacker attacks; and

(ii) Liability arising from the introduction of any form of malicious software including computer viruses into, or otherwise causing damage to City's or third person's computer, computer system, network, or similar computer-related property and the data, software, and programs thereon.

(f) Cyber and Privacy Liability Insurance with limits of not less than $1,000,000 per claim. Such insurance shall include coverage for liability arising from theft, dissemination, and/or use of confidential information, including but not limited to, bank and credit card account information or personal information, such as name, address, social security numbers, protected health information or other personally identifying information, stored or transmitted in electronic form.

(g) Reserved.

(h) Bailee's Insurance in a form appropriate for the nature of City property in the care, custody, or control of Contractor, on an all-risk form including earthquake and flood for 100% of the replacement value.

(i) Cargo Insurance in a form appropriate for the nature of City property while in transit, on an all-risk form including earthquake and flood for 100% of the replacement value.

(j) Crime Insurance with limits of not less than $500,000 per claim. Such insurance shall include coverage for liability arising from employee dishonesty and theft of City Property.

5.1.2 **Additional Insured**

(a) The Commercial General Liability Insurance policy must include as Additional Insured the City and County of San Francisco, and its Officers, Agents, and Employees.

(b) The Commercial Automobile Liability Insurance policy must include as Additional Insured the City and County of San Francisco, and its Officers, Agents, and Employees.

5.1.3 **Waiver of Subrogation.** The Workers' Compensation Liability Insurance policy(ies) shall include a waiver of subrogation in favor of City for all work performed by the Contractor, and its employees, agents and subcontractors.

5.1.4 **Primary Insurance.**

(a) The Commercial General Liability Insurance policy shall provide that such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that the insurance applies separately to each insured against whom claim is made or suit is brought.

(b) The Commercial Automobile Liability Insurance policy shall provide that such policies are primary insurance to any other insurance available to the

Additional Insureds, with respect to any claims arising out of this Agreement, and that the insurance applies separately to each insured against whom claim is made or suit is brought.

(c) Reserved.

5.1.5 **Other Insurance Requirements**

(a) Thirty (30) days' advance written notice shall be provided to City of cancellation, intended non-renewal, or reduction in coverages, except for non-payment for which no less than ten (10) days' notice shall be provided to City. Notices shall be sent to City address set forth in Section 11.1 entitled, "Notices to the Parties."

(b) Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, be maintained for a period of three (3) years beyond the expiration of this Agreement, to the effect that, should occurrences during the Agreement term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

(c) Should any of the required insurance be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above.

(d) Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

(e) Before commencing any Services, Contractor shall furnish to City certificates of insurance including additional insured and waiver of subrogation status, as required, with insurers with ratings comparable to A-, VIII or higher, that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above. Approval of the insurance by City shall not relieve or decrease Contractor's liability hereunder.

(f) If Contractor will use any subcontractor(s) to provide Services, Contractor shall require the subcontractor(s) to provide all necessary insurance and to name the City and County of San Francisco, and its officers, agents, and employees, and the Contractor as additional insureds and waive subrogation in favor of City, where required.

5.2 **Indemnification**.

5.2.1 Contractor shall indemnify and hold harmless City and its officers, agents and employees from, and, if requested, shall defend them from and against any and all liabilities (legal, contractual, or otherwise), losses, damages, costs, expenses, or claims for injury or damages (collectively, "Claims"), arising from or in any way connected with Contractor's performance of the Agreement, including but not limited to, any: (i) injury to or death of a person, including employees of City or Contractor; (ii) loss of or damage to property; (iii) violation of local, state, or federal common law, statute or regulation, including but not limited to privacy or personal identifiable information, health information, disability and labor laws or

regulations; (iv) strict liability imposed by any law or regulation; or (v) losses arising from Contractor's execution of subcontracts not in accordance with the requirements of this Agreement applicable to subcontractors; except to the extent such indemnity is void or otherwise unenforceable under applicable law, and except where such Claims are the result of the active negligence or willful misconduct of City and are not contributed to by any act of, or by any omission to perform some duty imposed by law or agreement on, Contractor, its subcontractors, or either's agent or employee. The foregoing indemnity shall include, without limitation, reasonable fees of attorneys, consultants, experts and related costs, and City's costs of investigating any claims against City.

5.2.2 In addition to Contractor's obligation to indemnify City, Contractor specifically acknowledges and agrees that it has an immediate and independent obligation to defend City from any claim which actually or potentially falls within this indemnification provision, even if the allegations are or may be groundless, false or fraudulent, which obligation arises at the time such Claim is tendered to Contractor by City and continues at all times thereafter.

5.2.3 Contractor shall indemnify and hold City harmless from all loss and liability, including attorneys' fees, court costs and all other litigation expenses for any infringement of the patent rights, copyright, trade secret or any other proprietary right or trademark, and all other intellectual property claims of any person or persons arising directly or indirectly from the receipt by City, or any of its officers or agents, of Contractor's Services.

5.2.4 Under no circumstances will City indemnify or hold harmless Contractor.

Article 6 Liability of the Parties

6.1 **Liability of City**. CITY'S PAYMENT OBLIGATIONS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE PAYMENT OF THE COMPENSATION PROVIDED FOR IN SECTION 3.3.1, "PAYMENT," OF THIS AGREEMENT. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, IN NO EVENT SHALL CITY BE LIABLE, REGARDLESS OF WHETHER ANY CLAIM IS BASED ON CONTRACT OR TORT, FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE SERVICES PERFORMED IN CONNECTION WITH THIS AGREEMENT.

6.2 **Liability for Use of Equipment**. City shall not be liable for any damage to persons or property as a result of the use, misuse or failure of any equipment used by Contractor, or any of its subcontractors, or by any of their employees, even though such equipment is furnished, rented or loaned by City.

6.3 **Reserved.**

Article 7 Payment of Taxes

7.1 **Contractor to Pay All Taxes.** Except for any applicable California sales and use taxes charged by Contractor to City, Contractor shall pay all taxes, including possessory interest taxes levied upon or as a result of this Agreement, or the Services delivered pursuant hereto. Contractor shall remit to the State of California any sales or use taxes paid by City to Contractor under this Agreement. Contractor agrees to promptly provide information requested by City to

verify Contractor's compliance with any State requirements for reporting sales and use tax paid by City under this Agreement.

7.2 **Possessory Interest Taxes.** Contractor acknowledges that this Agreement may create a "possessory interest" for property tax purposes. Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to timely report on behalf of City to the County Assessor the information required by San Francisco Administrative Code Section 23.39, as amended from time to time, and any successor provision. Contractor further agrees to provide such other information as may be requested by City to enable City to comply with any reporting requirements for possessory interests that are imposed by applicable law.

7.3 **Withholding.** Contractor agrees that it is obligated to pay all amounts due to City under the San Francisco Business and Tax Regulations Code during the term of this Agreement. Pursuant to Section 6.10-2 of the San Francisco Business and Tax Regulations Code, Contractor further acknowledges and agrees that City may withhold any payments due to Contractor under this Agreement if Contractor is delinquent in the payment of any amount required to be paid to City under the San Francisco Business and Tax Regulations Code. Any payments withheld under this paragraph shall be made to Contractor, without interest, upon Contractor coming back into compliance with its obligations.

Article 8 Termination and Default

8.1 Termination for Convenience

8.1.1 City shall have the option, in its sole discretion, to terminate this Agreement, at any time during the term hereof, for convenience and without cause. City shall exercise this option by giving Contractor written notice of termination ("Notice of Termination"). The Notice of Termination shall specify the date on which termination of the Agreement shall become effective ("Termination Date").

8.1.2 Upon receipt of the Notice of Termination, Contractor shall commence and perform, with diligence, all actions necessary on the part of Contractor to affect the termination of this Agreement on the Termination Date and to minimize the liability of Contractor and City to third parties as a result of the termination. All such actions shall be subject to the prior approval of City. Such actions may include any or all of the following, without limitation:

(a) Completing performance of any Services that City requires Contractor to complete prior to the Termination Date.

(b) Halting the performance of all Services on and after the Termination Date.

(c) Cancelling all existing orders and subcontracts by the Termination Date, and not placing any further orders or subcontracts for materials, Services, equipment or other items.

(d) At City's direction, assigning to City any or all of Contractor's right, title, and interest under the orders and subcontracts cancelled. Upon such assignment, City shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the cancellation of such orders and subcontracts.

(e) Subject to City's approval, settling all outstanding liabilities and all claims arising out of the cancelled orders and subcontracts.

(f) Taking such action as may be necessary, or as City may direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which City has or may acquire an interest.

8.1.3 Within 30 days after the Termination Date, Contractor shall submit to City an invoice, which shall set forth each of the following as a separate line item:

(a) The reasonable cost to Contractor, without profit, for all Services provided prior to the Termination Date, for which City has not already made payment. Reasonable costs may include a reasonable allowance for actual overhead, not to exceed a total of 10% of Contractor's direct costs for Services. Any overhead allowance shall be separately itemized. Contractor may also recover the reasonable cost of preparing the invoice.

(b) A reasonable allowance for profit on the cost of the Services described in the immediately preceding subsection (a), provided that Contractor can establish, to the satisfaction of City, that Contractor would have made a profit had all Services under this Agreement been completed, and provided further, that the profit allowed shall in no event exceed 5% of such cost.

(c) The reasonable cost to Contractor of handling and returning material or equipment delivered to City or otherwise disposed of as directed by City.

(d) A deduction for the cost of materials to be retained by Contractor, amounts realized from the sale of such materials and not otherwise recovered by or credited to City, and any other appropriate credits to City against the cost of the Services or other work.

8.1.4 In no event shall City be liable for costs incurred by Contractor or any of its subcontractors after the Termination Date, except for those costs specifically listed in Section 8.1.3. Such non-recoverable costs include, but are not limited to, anticipated profits on the Services under this Agreement, post-termination employee salaries, post-termination administrative expenses, post-termination overhead or unabsorbed overhead, attorneys' fees or other costs relating to the prosecution of a claim or lawsuit, prejudgment interest, or any other expense which is not reasonable or authorized under Section 8.1.3.

8.1.5 In arriving at the amount due to Contractor under this Section, City may deduct: (i) all payments previously made by City for Services covered by Contractor's final invoice; (ii) any claim which City may have against Contractor in connection with this Agreement; (iii) any invoiced costs or expenses excluded pursuant to the immediately preceding subsection 8.1.4; and (iv) in instances in which, in the opinion of City, the cost of any Service performed under this Agreement is excessively high due to costs incurred to remedy or replace defective or rejected Services, the difference between the invoiced amount and City's estimate of the reasonable cost of performing the invoiced Services in compliance with the requirements of this Agreement.

8.1.6 City's payment obligation under this Section shall survive termination of this Agreement.

8.2 **Termination for Default; Remedies.**

8.2.1 Each of the following shall constitute an immediate event of default ("Event of Default") under this Agreement:

(a) Contractor fails or refuses to perform or observe any term, covenant or condition contained in any of the following Sections of this Agreement:

3.5	Submitting False Claims	10.10	Alcohol and Drug-Free Workplace
4.6	Assignment	10.13	Reserved
Article 5	Insurance and Indemnity	11.10	Compliance with Laws
Article 7	Payment of Taxes	Article 13	Data and Security

(b) Contractor fails or refuses to perform or observe any other term, covenant or condition contained in this Agreement, including any obligation imposed by ordinance or statute and incorporated by reference herein, and such default is not cured within ten days after written notice thereof from City to Contractor. If Contractor defaults a second time in the same manner as a prior default cured by Contractor, City may in its sole discretion immediately terminate the Agreement for default or grant an additional period not to exceed five days for Contractor to cure the default.

(c) Contractor (i) is generally not paying its debts as they become due; (ii) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction; (iii) makes an assignment for the benefit of its creditors; (iv) consents to the appointment of a custodian, receiver, trustee or other officer with similar powers of Contractor, or of any substantial part of Contractor's property; or (v) takes action for the purpose of any of the foregoing.

(d) A court or government authority enters an order (i) appointing a custodian, receiver, trustee or other officer with similar powers with respect to Contractor or with respect to any substantial part of Contractor's property; (ii) constituting an order for relief or approving a petition for relief, reorganization or arrangement; or any other petition in bankruptcy or for liquidation, or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction; or (iii) ordering the dissolution, winding-up or liquidation of Contractor.

8.2.2 **Default Remedies**. On and after any Event of Default, City shall have the right to exercise its legal and equitable remedies, including, without limitation, the right to terminate this Agreement or to seek specific performance of all or any part of this Agreement. In addition, where applicable, City shall have the right (but no obligation) to cure (or cause to be cured) on behalf of Contractor any Event of Default; Contractor shall pay to City on demand all costs and expenses incurred by City in effecting such cure, with interest thereon from the date of incurrence at the maximum rate then permitted by law. City shall have the right to offset from any amounts due to Contractor under this Agreement or any other agreement between City and Contractor: (i) all damages, losses, costs or expenses incurred by City as a result of an Event of Default; and (ii) any liquidated damages levied upon Contractor pursuant to the terms of this

Agreement; and (iii), any damages imposed by any ordinance or statute that is incorporated into this Agreement by reference, or into any other agreement with City.

8.2.3 All remedies provided for in this Agreement may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy. Nothing in this Agreement shall constitute a waiver or limitation of any rights that City may have under applicable law.

8.2.4 Any notice of default must be sent in accordance with Article 11.

8.3 **Non-Waiver of Rights.** The omission by either Party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other Party at the time designated, shall not be a waiver of any such default or right to which the Party is entitled, nor shall it in any way affect the right of the Party to enforce such provisions thereafter.

8.4 **Rights and Duties upon Termination or Expiration.**

8.4.1 This Section and the following Sections of this Agreement listed below, shall survive termination or expiration of this Agreement:

3.3.2	Payment Limited to Satisfactory Services	8.2.2	Default Remedies
3.3.7(a)	Reserved	9.1	Ownership of Results
3.4	Audit and Inspection of Records	9.2	Works for Hire
3.5	Submitting False Claims	11.7	Agreement Made in California; Venue
Article 5	Insurance and Indemnity	11.8	Construction
6.1	Liability of City	11.9	Entire Agreement
6.3	Reserved	11.10	Compliance with Laws
Article 7	Payment of Taxes	11.11	Severability
8.1.6	Payment Obligation	Article 13	Data and Security

8.4.2 Subject to the survival of the Sections identified in Section 8.4.1, above, if this Agreement is terminated prior to expiration of the term specified in Article 2, this Agreement shall be of no further force or effect. Contractor shall transfer title to City, and deliver in the manner, at the times, and to the extent, if any, directed by City, any work in progress, completed work, supplies, equipment, and other materials produced as a part of, or acquired in connection with the performance of this Agreement, and any completed or partially completed work which, if this Agreement had been completed, would have been required to be furnished to City.

Article 9 Rights in Deliverables

9.1 **Ownership of Results**. Any interest of Contractor or its subcontractors in the Deliverables, any partially-completed Deliverables, and related materials, shall become the property of and will be transmitted to City. Unless expressly authorized in writing by City, Contractor may not retain and use copies for reference and as documentation of its experience and capabilities.

9.2 **Works for Hire**. All copyrights in Deliverables that are considered works for hire under Title 17 of the United States Code, shall be the property of City. If any such Deliverables are ever determined not to be works for hire under federal law, Contractor hereby assigns all Contractor's copyrights to such Deliverables to City, agrees to provide any material and execute any documents necessary to effectuate such assignment, and agrees to include a clause in every subcontract imposing the same duties upon its subcontractors. With City's prior written approval, Contractor and its subcontractors may retain and use copies of such works for reference and as documentation of their respective experience and capabilities provided that any such use is in conformance with the confidentiality provisions of this Agreement.

Article 10 Additional Requirements Incorporated by Reference

10.1 **Laws Incorporated by Reference**. The full text of the laws listed in this Article 10, including enforcement and penalty provisions, are incorporated by reference into this Agreement. The full text of the San Francisco Municipal Code provisions incorporated by reference in this Article and elsewhere in the Agreement ("Mandatory City Requirements") are available at http://www.amlegal.com/codes/client/san-francisco_ca/.

10.2 **Conflict of Interest**. By executing this Agreement, Contractor certifies that it does not know of any fact which constitutes a violation of Section 15.103 of the City's Charter; Article III, Chapter 2 of City's Campaign and Governmental Conduct Code; Title 9, Chapter 7 of the California Government Code (Section 87100 *et seq.*); or Title 1, Division 4, Chapter 1, Article 4 of the California Government Code (Section 1090 *et seq.*), and further agrees promptly to notify City if it becomes aware of any such fact during the term of this Agreement.

10.3 **Prohibition on Use of Public Funds for Political Activity.** In performing the Services, Contractor shall comply with San Francisco Administrative Code Chapter 12G, which prohibits funds appropriated by City for this Agreement from being expended to participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure. Contractor is subject to the enforcement and penalty provisions in Chapter 12G.

10.4 **Reserved.**

10.5 **Reserved.**

10.5.1 **Reserved**.

10.5.2 **Reserved.**

10.6 **Reserved.**

10.7 **Reserved.**

10.8 **Reserved.**

10.9 **Reserved.**

10.10 **Alcohol and Drug-Free Workplace.** City reserves the right to deny access to, or require Contractor to remove from, City facilities personnel of any Contractor or subcontractor who City has reasonable grounds to believe has engaged in alcohol abuse or illegal drug activity which in any way impairs City's ability to maintain safe work facilities or to protect the health and well-being of City employees and the general public. City shall have the right of final approval for the entry or re-entry of any such person previously denied access to, or removed from, City facilities. Illegal drug activity means possessing, furnishing, selling, offering, purchasing, using or being under the influence of illegal drugs or other controlled substances for which the individual lacks a valid prescription. Alcohol abuse means possessing, furnishing, selling, offering, or using alcoholic beverages, or being under the influence of alcohol.

10.11 **Limitations on Contributions.** By executing this Agreement, Contractor acknowledges its obligations under Section 1.126 of City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with, or is seeking a contract with, any department of City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, for a grant, loan or loan guarantee, or for a development agreement, from making any campaign contribution to (i) a City elected official if the contract must be approved by that official, a board on which that official serves, or the board of a state agency on which an appointee of that official serves; (ii) a candidate for that City elective office; or (iii) a committee controlled by such elected official or a candidate for that office, at any time from the submission of a proposal for the contract until the later of either the termination of negotiations for such contract or twelve months after the date City approves the contract. The prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than ten percent (10%) in Contractor; any subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Contractor certifies that it has informed each such person of the limitation on contributions imposed by Section 1.126 by the time it submitted a proposal for the contract, and has provided the names of the persons required to be informed to the City department with whom it is contracting.

10.12 **Reserved.**

10.13 **Reserved.**

10.14 **Reserved.**

10.14.1 Reserved.

10.14.2 Reserved.

10.15 **Nonprofit Contractor Requirements.**

10.15.1 **Good Standing.** If Contractor is a nonprofit organization, Contractor represents that it is in good standing with the California Attorney General's Registry of Charitable Trusts and will remain in good standing during the term of this Agreement. Contractor shall immediately notify City of any change in its eligibility to perform under the Agreement. Upon City's request, Contractor shall provide documentation demonstrating its compliance with applicable legal requirements. If Contractor will use any subcontractors to perform the Agreement, Contractor is responsible for ensuring they are also in compliance with the California Attorney General's Registry of Charitable Trusts for the duration

of the Agreement. Any failure by Contractor or its subcontractors to remain in good standing with applicable requirements shall be a material breach of this Agreement.

10.15.2 **Public Access to Nonprofit Records and Meetings.** If Contractor is a nonprofit organization, provides Services that do not include services or benefits to City employees (and/or to their family members, dependents, or their other designated beneficiaries); and receives a cumulative total per year of at least $250,000 in City or City-administered funds, Contractor must comply with the City's Public Access to Nonprofit Records and Meetings requirements, as set forth in Chapter 12L of the San Francisco Administrative Code, including the remedies provided therein.

10.16 **Reserved.**

10.17 **Reserved.**

10.17.1**Reserved.**

10.17.2 **Reserved.**

10.18 **Reserved.**

10.19 **Reserved.**

10.20 **Reserved.**

10.21 **Reserved.**

10.22 **Reserved.**

10.22.1 **Reserved.**

10.22.2 **Reserved.**

10.23 **Reserved.**

10.24 **Use of City Opinion.** Contractor shall not quote, paraphrase, or otherwise refer to or use any opinion of City, its officers or agents, regarding Contractor or Contractor's performance under this Agreement without prior written permission of Purchasing.

Article 11 General Provisions

11.1 **Notices to the Parties.** Unless otherwise indicated in this Agreement, all written communications sent by the Parties may be by U.S. mail or e-mail, and shall be addressed as follows:

To City:	Director of Purchasing City and County of San Francisco Office of Contract Administration Purchasing Division City Hall, Room 430 1 Dr. Carlton B. Goodlett Place San Francisco, CA 94102-4685 Email: OCA@sfgov.org Phone: (415) 554-6743 Fax: (415) 554-6717

To Contractor:	Joshua Seidel President Auction Exchange Inc. DBA Bar None Auction 4751 Power Inn Road Sacramento, CA 95826 jseidel@barnoneauction.com 916-246-2156, 866-372-1700

Any notice of default or data breach must be sent by certified mail or other trackable written communication, and also by e-mail, with the sender using the receipt notice feature. Either Party may change the address to which notice is to be sent by giving written notice thereof to the other Party at least ten (10) days prior to the effective date of such change. If email notification is used, the sender must specify a receipt notice.

11.2 **Compliance with Laws Requiring Access for People with Disabilities.**

11.2.1 Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to people with disabilities. Contractor shall provide the services specified in this Agreement in a manner that complies with the ADA and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against people with disabilities in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns will constitute a material breach of this Agreement.

11.2.2 Contractor shall adhere to the requirements of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. Sec. 1201 et seq.), Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), Section 255 of the Communications Act Guidelines, the applicable Revised Section 508 Standards, and Web Content Accessibility Guidelines 2.1, Level AA, as amended from time to time. Contractor shall ensure that all information content and technology provided under this Agreement fully conforms to the applicable Revised 508 Standard, as amended from time to time, prior to delivery and before the City's final acceptance of the Services and/or Deliverables.

11.3 **Incorporation of Recitals.** The matters recited above are hereby incorporated into and made part of this Agreement.

11.4 **Sunshine Ordinance.** Contractor acknowledges that this Agreement and all records related to its formation, Contractor's performance of Services, and City's payment are subject to the California Public Records Act, (California Government Code §7920 et seq.), and the San Francisco Sunshine Ordinance, (San Francisco Administrative Code Chapter 67). Such records are subject to public inspection and copying unless exempt from disclosure under federal, state or local law.

11.5 **Modification of this Agreement**. This Agreement may not be modified, nor may compliance with any of its terms be waived, except by written instrument executed and approved in the same manner as this Agreement.

11.6 **Dispute Resolution Procedure**.

11.6.1 **Negotiation; Alternative Dispute Resolution.** The Parties will attempt in good faith to resolve any dispute or controversy arising out of or relating to the performance of services under this Agreement. Disputes will not be subject to binding arbitration. The status of any dispute or controversy notwithstanding, Contractor shall proceed diligently with the performance of its obligations under this Agreement in accordance with the Agreement and the written directions of City. Neither Party will be entitled to legal fees or costs for matters resolved under this Section.

11.6.2 **Government Code Claim Requirement.** No suit for money or damages may be brought against City until a written claim therefor has been presented to and rejected by City in conformity with the provisions of San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq. Nothing set forth in this Agreement shall operate to toll, waive or excuse Contractor's compliance with the California Government Code Claim requirements set forth in San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq.

11.7 **Agreement Made in California; Venue**. The formation, interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue for all litigation relative to the formation, interpretation and performance of this Agreement shall be in San Francisco.

11.8 **Construction.** All paragraph captions are for reference only and shall not be considered in construing this Agreement.

11.9 **Entire Agreement**. This contract, including the appendices, sets forth the entire Agreement between the Parties, and supersedes all other oral or written provisions. This Agreement may be modified only as provided in Section 11.5, "Modification of this Agreement."

11.10 **Compliance with Laws**. Contractor shall keep itself fully informed of City's Charter, codes, ordinances and duly adopted rules and regulations of City and of all state, and federal laws in any manner affecting the performance of this Agreement, and must at all times comply with such local codes, ordinances, and regulations and all applicable laws as they may be amended from time to time.

11.11 **Severability**. Should the application of any provision of this Agreement to any particular facts or circumstances be found by a court of competent jurisdiction to be invalid or unenforceable, then (i) the validity of other provisions of this Agreement shall not be affected or impaired thereby, and (ii) such provision shall be enforced to the maximum extent possible so as to effect the intent of the Parties and shall be reformed without further action by the Parties to the extent necessary to make such provision valid and enforceable.

11.12 **Cooperative Drafting**. This Agreement has been drafted through a cooperative effort of City and Contractor, and both Parties have had an opportunity to have the Agreement reviewed and revised by legal counsel. No Party shall be considered the drafter of this Agreement, and no presumption or rule that an ambiguity shall be construed against the Party drafting the clause shall apply to the interpretation or enforcement of this Agreement.

11.13 **Order of Precedence.** The Parties agree that this Agreement, including all appendices, sets forth the Parties' complete agreement. If the Appendices to this Agreement include any standard printed terms from Contractor, Contractor agrees that in the event of discrepancy, inconsistency, gap, ambiguity, or conflicting language between City's terms and

Contractor's printed terms attached, City's terms in this Agreement shall take precedence, followed by the procurement issued by the department (if any), Contractor's proposal, and Contractor's printed terms, respectively. Any hyperlinked terms included in Contractor's terms shall have no legal effect.

11.14 **Notification of Legal Requests.** Contractor shall immediately notify City upon receipt of any subpoenas, service of process, litigation holds, discovery requests and other legal requests ("Legal Requests") related to any City Data under this Agreement, and in no event later than twenty-four (24) hours after Contractor receives the request. Contractor shall not respond to Legal Requests related to City without first notifying City other than to notify the requestor that the information sought is potentially covered under a non-disclosure agreement. Contractor shall retain and preserve City Data in accordance with City's instruction and requests, including, without limitation, any retention schedules and/or litigation hold orders provided by City to Contractor, independent of where City Data is stored.

Article 12 Department Specific Terms

12.1 **Click-Wrap Disclaimer.** No "click to accept" agreement that may be required for City and/or Authorized Users' access to the SaaS Services or Contractor's Website and no terms of use, terms of service, or privacy policy referenced therein or conditioned for use of the SaaS Services or Contractor's Website shall apply. Only the provisions of this Agreement as amended from time to time shall apply to City and/or Authorized Users for access thereto and use thereof. The Parties acknowledge that City and/or each Authorized User may be required to click "Accept" as a condition of access to the SaaS Services through Contractor's Website, but the provisions of such "click to accept" agreement and other terms (including terms of use, terms of service, and privacy policy) contained or referenced therein shall be null and void for City and/or each such Authorized User. The foregoing does not apply to City's own click-wrap agreements in the event City chooses to have Contractor include terms of use, terms or service, privacy policies, or similar requirements drafted and approved by City.

Article 13 Data and Security

13.1 **Nondisclosure of Private, Proprietary or Confidential Information.**

13.1.1 **Protection of Private Information.** If this Agreement requires City to disclose "Private Information" to Contractor within the meaning of San Francisco Administrative Code Chapter 12M, Contractor and subcontractor shall use such information only in accordance with the restrictions stated in Chapter 12M and in this Agreement and only as necessary in performing the Services. Contractor is subject to the enforcement and penalty provisions in Chapter 12M.

13.1.2 **City Data; Confidential Information.** In the performance of Services, Contractor may have access to, or collect on City's behalf, City Data, which may include proprietary or Confidential Information that if disclosed to third parties may damage City. If City discloses proprietary or Confidential Information to Contractor, or Contractor collects such information on City's behalf, such information must be held by Contractor in confidence and used only in performing the Agreement. Contractor shall exercise the same standard of care to protect such information as a reasonably prudent contractor would use to protect its own proprietary or Confidential Information.

13.2 **Payment Card Industry ("PCI") Requirements.** Contractors providing Services and products that handle, transmit or store cardholder data, are subject to the following requirements:

13.2.1 Applications shall be compliant with the Payment Application Data Security Standard (PA-DSS) and validated by a Payment Application Qualified Security Assessor (PA-QSA). A Contractor whose application has achieved PA-DSS certification must then be listed on the PCI Councils list of PA-DSS approved and validated payment applications.

13.2.2 Gateway providers shall have appropriate Payment Card Industry Data Security Standards (PCI DSS) certification as service providers (https://www.pcisecuritystandards.org/index.shtml). Compliance with the PCI DSS shall be achieved through a third-party audit process. Contractor shall comply with Visa Cardholder Information Security Program (CISP) and MasterCard Site Data Protection (SDP) programs.

13.2.3 For any Contractor that processes PIN Debit Cards, payment card devices supplied by Contractor shall be validated against the PCI Council PIN Transaction Security (PTS) program.

13.2.4 For items 13.2.1 to 13.2.3 above, Contractor shall provide a letter from their qualified security assessor (QSA) affirming their compliance and current PCI or PTS compliance certificate.

13.2.5 Contractor shall be responsible for furnishing City with an updated PCI compliance certificate thirty (30) calendar days prior to its expiration.

13.2.6 Bank Accounts. Collections that represent funds belonging to City shall be deposited, without detour to a third party's bank account, into a City bank account designated by the Office of the Treasurer and Tax Collector.

13.3 **Reserved.**

13.4 **Management of City Data.**

13.4.1 **Use of City Data.** Contractor agrees to hold City Data received from, or created or collected on behalf of, City, in strictest confidence. Contractor shall not use or disclose City Data except as permitted or required by the Agreement or as otherwise authorized in writing by City. Any work by Contractor or its authorized subcontractors using, or sharing or storage of, City Data outside the United States is prohibited, absent prior written authorization by the City. Access to City Data must be strictly controlled and limited to Contractor's staff assigned to this project on a need-to-know basis only. City Data shall not be distributed, repurposed or shared across other applications, environments, or business units of Contractor. Contractor is provided a limited non-exclusive license to use City Data solely for performing its obligations under the Agreement and not for Contractor's own purposes or later use. Nothing herein shall be construed to confer any license or right to the City Data, by implication, estoppel or otherwise, under copyright or other intellectual property rights, to any third-party. Unauthorized use of City Data by Contractor, subcontractors or other third-parties is prohibited. For purpose of this requirement, the phrase "unauthorized use" means the data mining or processing of data and/or machine learning from the data, stored or transmitted by the service, for unrelated commercial purposes, advertising or advertising-related purposes, or for any purpose that is not explicitly authorized other than security or service delivery analysis.

13.4.2 **Disposition of City Data**. Upon request of City or termination or expiration of this Agreement, Contractor shall promptly, but in no event later than thirty (30) calendar days, return all City Data given to, or collected or created by Contractor on City's behalf, which includes all original media. Once Contractor has received written confirmation from City that City Data has been successfully transferred to City, Contractor shall within ten (10) business days clear or purge all City Data from its servers, any hosted environment Contractor has used in performance of this Agreement, including its subcontractor's environment(s), work stations that were used to process the data or for production of the data, and any other work files stored by Contractor in whatever medium. Contractor shall provide City with written certification that such purge occurred within five (5) business days of the purge. Secure disposal shall be accomplished by "clearing," "purging" or "physical destruction," in accordance with National Institute of Standards and Technology (NIST) Special Publication 800-88 or most current industry standard.

13.4.3 **Protected Health Information.** Where applicable, Contractor, all subcontractors, all agents and employees of Contractor and any subcontractor shall comply with all federal and state laws regarding the transmission, storage and protection of all private health information, if any, disclosed to Contractor by City in the performance of this Agreement. Contractor agrees that any failure of Contractor to comply with the requirements of federal and/or state and/or local privacy laws shall be a material breach of the Agreement. In the event that City pays a regulatory fine, and/or is assessed civil penalties or damages through private rights of action, based on an impermissible use or disclosure of protected health information given to Contractor or its subcontractors or agents by City, Contractor shall indemnify City for the amount of such fine or penalties or damages, including costs of notification. In such an event, in addition to any other remedies available to it under equity or law, the City may terminate the Agreement.

13.5 **Ownership of City Data.** The Parties agree that as between them, all rights, including all intellectual property rights, in and to City Data and any derivative works of City Data is the exclusive property of City.

13.6 **Loss or Unauthorized Access to City's Data; Security Breach Notification.** Contractor shall comply with all applicable laws that require the notification to individuals in the event of unauthorized release of PII, PHI, or other event requiring notification. Contractor shall notify City of any actual or potential exposure or misappropriation of City Data (any "Leak") within twenty-four (24) hours of the discovery of such, but within twelve (12) hours if the Leak involved PII or PHI. Contractor, at its own expense, will reasonably cooperate with City and law enforcement authorities to investigate any such Leak and to notify injured or potentially injured parties. The remedies and obligations set forth in this subsection are in addition to any other City may have. City shall conduct all media communications related to such Leak.

Article 14 MacBride And Signature

14.1 **Reserved.**

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the day first mentioned above.

CITY	**CONTRACTOR**
Recommended by: DocuSigned by: Wil Alderman A22523E97D49425... **W**il Alderman Procurement Manager Office of Contract Administration Approved as to Form: David Chiu City Attorney By: DocuSigned by: Gustin Guibert D39D934F443D4CB... Gustin Guibert Deputy City Attorney Approved: Sailaja Kurella Director of the Office of Contract Administration, and Purchaser DocuSigned by: Taraneh Moayed 9AEA44694D514E7... By: Taraneh Moayed	Auction Exchange Inc. DBA Bar None DocuSigned by: Josh Seidel 66067A47052D44C... Joshua Seidel President Auction4751 Power Inn Road Sacramento, CA 95826 jseidel@barnoneauction.com 916-246-2156, 866-372-1700 City Supplier Number: 0000048079

Appendices

A: Scope of Services
B: Calculation of Charges
C: Contractor's User Agreement

Appendix A
Scope of Services

I. City Department's Responsibilities
II. Advertising
III. Auction Services
IV. Revenue Protection
V. Large Vehicle Driver Safety Training Requirements
VI. Procedures for Towing and Removal of Rear Axle Shaft

The purpose of this Contract is for Contractor to sell City owned surplus to the highest responsible bidder by conducting monthly and as-needed multi-seller public auctions. Set forth below are the minimum service level obligations of the Contractor. Contractor shall not construe from any given instances where the City fails to insist on strict adherence to any of the terms and conditions below as a waiver or relinquishment of such requirements. Employees, officers, and agents of the Contractor shall not be authorized to bid on City property when it is auctioned.

I. City Department's Responsibilities

A. **Central Shops Representative:** The Fleet Analyst at the City's Central Shops will be the City's central contact person for this Agreement. The designated representative of Central Shops is responsible for producing a report instructing the City Administrator's Accounting where to credit the proceeds.

B. **Department Representatives.** Department(s) shall also designate a representative to interface, monitor and maintain adequate records of all transactions under this contract. The department representative shall represent the City's Department on all matters related to the administration and use of this contract including but not limited to:

(1) Affirm that the item is no longer required and that the department has free and clear title for its disposal.

(2) Furnish original documents and information to the Contractor and a copy to the designated contract person from Central Shops regarding items such as certificate of ownership, registration card, owner's manual, maintenance records, certifications and permits issued, product specification and a copy of the purchase order.

(3) Disclose any known material defects, and/or hazardous materials contained within to the Contractor and to the designated contact person at Central Shops.

(4) Disclose any governing rules and regulations and/or permits required for the removal, transport, use and/or disposal of the item to the Contractor and to the Principal Fleet Analyst of Central Shops.

(5) Deliver all license plates issued by the Department of Motor Vehicles for turned-in vehicles, trailers and equipment to the designated representative of Central Shops for proper disposal.

(6) Coordinate and facilitate inspections and removal of the item by the Contractor.

(7) Consolidate and stage surplus to be picked-up by the Contractor for auctioning at a centrally located and accessible area for loading onto trucks.

(8) Set minimum bid prices, if any, in which the Contractor will be able to accept from
bidders.

(9) Determine to "no award" items if the bid prices (from bidders) are not acceptable to the designated department representative.

(10) Assign and remove City items from auction. Contractor shall then remove City items from auction without additional charge to City Departments and to the City and County of San Francisco.

(11) Investigate, determine and recommend appropriate remedies to the designed representative at Central Shops for non-compliance by Contractor including but not limited to termination of contract, and filing claims against Contractor's surety bonds filed with the California Secretary of State, and/or the Department of Motor Vehicles.

II. Advertising

A. **Potential Bidder's List.** Contractor will maintain an active and prospective bidder list on behalf of City and will notify individuals of any auctions that include City Assets. Acceptable forms of notification include U.S. Mail, e-mail, fax or telephone. The City shall forward all auction inquiries and prospective bidder information to the Contractor for list inclusion.

B. **Timing:** Contractor will advertise auctions containing City vehicles and equipment valued at $5,000 or more at least once within fifteen (15) days of the auction. Once the vehicles/equipment have been listed, Contractor shall notify Central Shops via email with a summary of the advertising performed for it.

C. **Content:** At a minimum, the advertising will:

(1) Announce the date, place and time of the auction, and that the auction includes vehicles and equipment being sold on behalf of the City

(2) The manufacturer, model, year, odometer/vehicle hour reading, and an indication of the vehicle's condition.

(3) A description of the vehicle's major options.

D. **Form:** This advertising effort will be conducted in all of the following formats:

(1) **Newspapers and Periodicals:** Newspaper advertisements placed in at least four (4) major newspapers circulating in the nine-county Bay Area and one (1) major newspaper in the Sacramento metropolitan area or, where better suited, through online forums and listings such as Craigslist, Facebook Marketplace, social media, and other forums of similar nature.

(2) **Direct Mail or Email:** Direct mailing to the Contractor's active and prospective bidders (or email announcements for Internet-based auctions).

(3) **Contractor's Website:** Auction announcements posted on the Contractor's auction Internet website. A single individual listing must be used for each vehicle to be sold. The listing will include the auction location, a general description of the vehicle, and at least four (4) photographs showing the front, sides and rear of vehicle.

(4) **Other:** Other forms of promotions shall include trade journals, social media, and other electronic media.

III. Auction Services

A. **Auction Location:** Contractor will conduct live auctions of vehicles and equipment at the Contractor's permanent auction facility located at 4751 Power Inn Road, Sacramento, CA 95826, online, or both, at Contractor's option and in consultation with City.

B. **Auction Frequency.** Contractor must be willing and able to perform auctions at least once per month throughout the Contract term.

C. **No Entry Charges Permitted.** The auctioning of City owned surplus shall be open to the general public, no entry or bidder fees may be charged.

D. **Offers.** Contractor shall consider all offers from responsible bidders in accordance with laws and regulations governing the sale, use and/or transport of the items to be sold, and terms and conditions of the sale.

E. **Notice of All Bidders.** Contractor shall uniformly disclose and notify all interested bidders of sale requirements, including, but not limited to the following:

(1) Items are being sold "as is, where is" and "in its present condition, with all faults" without any expressed or implied warranties as to its condition, defects, hazards, and/or the fitness of the items for a particular use.

(2) Caveat Emptor – "let the buyer beware" – by submission of his/her bid, the bidder acknowledges that he/she has exercised due diligence in gathering information on the quality and condition; and, the requirements, licensures and permit necessary to remove, transport, store, utilize and dispose of the items being auctioned.

(3) Vehicles, trailers and equipment are being offered as "UNREGISTERED" with the State of California, Department of Motor Vehicles, without license plates, and are not intended for operations on public highways and streets. Any repairs necessary to place the items in operating condition and/or in a condition of compliance with the appropriate jurisdictional authority shall be the sole responsibility of the buyer.

(4) Pursuant to Section 24007.5 of the California Vehicle Code, the bidder is notified that they must obtain a Certificate of Compliance from a licensed smog check station, indicating that the vehicle may be registered with the Department of Motor Vehicles for use on public highways and streets.

(5) Pursuant to California Air Resources Board regulations, for heavy duty diesel fueled vehicles, Contractor shall complete and file with the appropriate authority(ies) an "Out of-State Sales Verification" and provide a copy of the verification to the City with sale proceeds for any and all vehicles subject to that requirement and any other future requirements set forth by the California Air Resources Board.

(6) Dispose any and all information provided by the City specific to items to be sold to bidders including but not limited to: condition, defects, hazards; and requirements for removal, transport, reuse and/or disposal.

F. **Closed Bid Sales.** Where requested by City, Contractor shall conduct a closed bid sale for selected items rather than by live auction. In such an event, sales proceeds,

commissions and other authorized charges shall be collected, deducted and paid in the same manner as if auctioned.

B. **Pre-Auction Services.**

(1) **Evaluation.** Contractor shall provide expertise and assistance to determine marketability and value of items for possible sale.

(2) **Asset Removal from City Property and Storage.** Upon City's request, Contractor shall transport the items to be sold to their auction site in accordance with the following requirements.

i Contractor will transport and store running and disabled vehicles and equipment, upon request of City, at any time during the term of this contract, whether or not an auction is scheduled during that particular month.

ii Items shall be transported within 48 hours of City's notification.

iii The majority of the items requiring transport consisting of vehicles, trailers and other motorized equipment will be staged at the City's Central Shop facility currently located at 1800 Jerrold Avenue. The remaining items will be located at various facilities throughout San Francisco, and occasionally at City facilities in the East Bay, South Bay, Peninsula and Sonora County.

iv Contractor shall arrange transportation to Contractor's secure auction facility utilizing the services of a bonded and insured independent towing agent, for which City shall reimburse Contractor. City and Contractor shall determine how payment will be made which can, at City's option, be made by withholding the amount of the fee from the gross auction proceeds.

v Unless City elects to choose an independent towing agent at City's own expense, Contractor shall be responsible for any and all losses or damage to items due to fire, theft, Contractor's negligence or malicious acts during and after transport to the auctioning site.

vi **Large Equipment.** Rarely, equipment may be too large to be cost effective to transport. In these cases, and with City's approval. Contractor will make arrangements for buyers to inspect the equipment where it is located. The auction of oversize equipment will then be conducted in the normal manner, at the regular

auction facility located at 4751 Power Inn Road, Sacramento, CA 95826 , online, or both, at Contractor's option and in consultation with City.

vii **Storage:** Subject to Subsection C(1) below, Contractor shall store City's Assets at no additional charge.

viii **Auctions to be performed on City premises.** Upon request by City, Contractor may conduct auctions on City premises. In such instances, Contractor must supply, set-up and return all needed equipment, including office trailer, seating and auctioning stands, and provide all necessary personnel to prepare, conduct and complete auctioning services.

(3) **Asset Documentation.**

i Contractor shall inventory, lot and prepare the items for advertising, inspecting and auctioning.

ii Contractor shall physically verify vehicle identification numbers, and obtain and prepare certificates of ownership for previously licensed vehicles and equipment to be sold.

(4) **Asset Preparation**.

i Contractor shall Remove any identifiable City and County of San Francisco markings including logos, decals, numbers and wordings.

ii Contractor shall perform safety and smog checks, and issue Certificates of Compliance for vehicles identified by the City for sale to the general public. Non-compliant vehicles are identified as such and may only be sold to dealers and dismantlers.

(5) **Asset Showings.**

i Contractor shall schedule inspections of items to be auctioned for interested bidders.

ii Contractor shall conduct auctions in absentia where City Assets are inspected and removed from locations other than where auctioned.

C. **Post Auction Services.**

(1) **Unsold Assets.** If a lot does not sell during an auction, the Contractor will store it, free of charge, until the next scheduled auction but in no event for more than 90 calendar days. No storage charges will apply unless City staff requests an extended storage beyond the date of the next scheduled auction (as may occur if a particular item does not meet the reserve price).

(2) **Collection of Auction Proceeds.** Contractor shall collect and process all deposits and proceeds derived from the sale of an Asset. At the completion of the auction and upon award of bid, the buyer shall pay the entire balance of the purchase or twenty-five (25) percent deposit with the balance to be paid the following business day. If a Bidder is not able to complete the purchase within three (3) business days of the auction end date, City shall be entitled to the deposit, less Contractor's fees.

(3) **Taxes and Fees.** Contractor shall collect any taxes and fees at the applicable rate, and pay directly the appropriate authorities.

(4) **Bill of Sale and Release of Liability Filings.** Contractor shall issue bills of sale and release other related documents to buyers. Where appropriate, Contractor shall file Release of Liability with the DMV on behalf of the City.

(5) **CARB Compliance.** Contractor shall file and submit any necessary California Air Resource Board (CARB) compliance articles prior to releasing secured items to purchaser for delivery. Should also follow other state's regulatory requirements.

(6) **Ensure Removal of Assets.** Contractor shall supervise and enforce the terms of sale with buyers for the removal of purchased items, and remedy any deficiencies.

(7) **Pay City.** Make payment for the net proceeds to the City in accordance Section IV of this Appendix.

(8) **Record Keeping.** Keep all necessary records and documents for a minimum of five (5) years or in accordance to the California Department of Motor Vehicles' retention policy, whichever is longer. Copies shall be provided to the City upon request.

IV. Revenue Protection

A. Duty of Care.

(1) Except for Contractor's Commission, all Revenue generated from the sale of City's Assets shall be the sole and exclusive property of the City, which Contractor shall hold in trust and safeguard for the sole benefit of the City.

(2) Contractor shall safeguard all Revenues with the highest degree of care and shall take all necessary measures and applying the highest standard of care to ensure that all proceeds from auctions are properly collected, accounted, and remitted to City.

(3) Contractor shall have no right, title, interest, lien or set-off rights on or against any portion of the Revenues except as otherwise determined under Appendix B.

B. **Banking Requirements**

(1) Payments received from a Buyer for the sale of City's Assets must by deposited into and maintained in an account managed wholly by Contractor and held in a reputable financial institution. For the purposes of this Agreement, a reputable financial institution shall mean a financial institution that meets the following three criteria:

i. Is insured by the Federal Deposit Insurance Corporation (FDIC);
ii. Has a minimum credit rating of A- or higher from Standard & Poor's or an equivalent rating from another recognized credit rating agency; and
iii. Is listed among the top 100 global banks by assets in the most recent annual report.

(2) Contractor shall provide evidence, upon request, of the banking institution's compliance with the criteria set forth above.

(3) Failure to utilize a reputable financial institution shall constitute a material breach of this Agreement, subjecting Contractor to possible penalties, including but not limited to the requirement to pay any additional costs incurred by City due to the non-compliance.

(4) Contractor shall be responsible for, and liable for any damages arising from, the secure transport and delivery of Revenues in accordance with the Agreement.

(5) Until monies charged and collected by the Contractor on behalf of the City are deposited in accordance with this Contract, the Contractor shall assume all risk of loss of such monies, including, but not limited to, loss by damage, destruction, disappearance, theft, fraud, counterfeit bills/coins, or dishonesty.

C. **Record Keeping.** Items not sold and held over to the next auction shall be listed as such. For each sale of City Assets, Contractor shall provide City all information pertinent to the sale including but not limited to:

i. Auction date
ii. Bill of Sale
iii. Contractor's unique transaction ID for that sale
iv. Complete description of the goods sold delivered, including Contractor's lot numbers, City's Asset numbers (if any)
v. Unit price
vi. Unit of measure
vii. Quantities
viii. Extended price
ix. Sales/use tax (if applicable)
x. Commission Amounts
xi. Other allowed charges
xii. Bidder number, name, full address including state, and telephone number
xiii. Bidders DMV dealer license number if applicable
xiv. For DMV titled lots:
    1. Registered owner information, including owner name, address and telephone number
    2. Year, Make, Model
    3. City's asset number, serial number/VIN
    4. Odometer reading
    5. Contractor's copies of all CARB reporting information as required
xv. Other terms as agreed to by the parties.

V. Large Vehicle Driver Safety Training Requirements

A. For purposes of this section, "large vehicle" means any single vehicle or combination of vehicle and trailer with an unladen weight of 10,000 lbs or more, or a van designed to carry 10 or more people.

B. Contractor agrees that, before any of its employees and Subcontractors drive large vehicles within the City of San Francisco, those employees and Subcontractors will successfully complete:

(1) The SFMTA's Large Vehicle Urban Driving Safety training program; or
(2) A training program that meets SFMTA's Large Vehicle Urban Driving Safety Program - Training Standards.

C. If the SFMTA's training program is not available at the time the Notice to Proceed is issued by the SFMTA, then Contractor, by executing the Agreement, certifies that its employees and Subcontractors who drive large vehicles within the City of San Francisco will

successfully complete either (a) the SFMTA's Large Vehicle Urban Driving Safety training program or (b) a training program that meets the SFMTA's approved standards for large vehicle urban driving safety within 90 days after being notified by the SFMTA that the SFMTA's training program is available.

D. Subsection B above shall not apply to drivers providing delivery services who are not employees or Subcontractors of the Contractor.

E. **Liquidated Damages.** By entering into this Agreement, Contractor agrees that in the event the Contractor fails to comply with the Large Vehicle Driver Safety Training Requirements, the City will suffer actual damages that will be impractical or extremely difficult to determine. Contractor agrees that the sum of up to one-thousand dollars ($1,000) per employee or Subcontractor who is permitted to drive a large vehicle in violation ofthese requirements is not a penalty, but is a reasonable estimate of the loss that City will incur based on the Contractor's failure to comply with this requirement, established in light of the circumstances existing at the time this contract was awarded. City may deduct a sum representing the liquidated damages from any money due to Contractor. Such deductions shall not be considered a penalty, but rather agreed monetary damages sustained by City because of Contractor's failure to comply.

VI. Compliance with Regulations

A. Contractor shall comply with all laws related to the rendering of auction services of vehicles including, but not limited to:

(1) Civil Code – Sections 1812.600 through 1812.610;
(2) Commercial Code – Sections 2301 through 2328 and Sections 6101 through 6111;
(3) Penal Code – Section 535, and;
(4) Vehicle Code – Sections 4450-4467, 11700-11740, and 24000-24018.

B. Contractor shall also comply with all applicable laws and regulations of the local government municipality pertaining to conducting the auction and sale of the surplus items.

C. Contractor shall maintain equipment and facilities used to transport, store and auction items in a safe operating condition, and keep current any and all permits and licenses governing such activities by Federal, State and Local regulatory agencies.

VII. Accounting of Sales

A. **Financial Details.** For each completed auction of City's Assets, the Contractor shall provide a report detailing the financial aspects of the auction including:

(1) Auctioneer's lot numbers,
(2) City's asset numbers,
(3) item descriptions,
(4) sold prices,

(5) commission amounts,
(6) gross proceeds
(7) allowed charges,
(8) net prices
(9) net proceeds.

B. **Bill of Sale/Lot Sale Report.** For each completed auction of City's Assets, the Contractor shall copies of bill of sale or lot sale report for each item/lot sold detailing;

(1) lot information
(2) auction date
(3) lot number
(4) description/yr./make/model
(5) City's asset number
(6) Vehicle serial number/VIN
(7) Vehicle odometer reading
(8) Sale price
(9) Buyer information, including: bidder number, name, address and telephone number, and, for DMV titled lots, registered owner information – owner name, address and telephone number, and Contractor's copies of all CARB reporting information.

VIII. Procedures for Towing and Removal of Rear Axle Shaft

A. Neoplan Coaches and Trolleys

TOWING

CAUTION

If the Operating Company has its own towing procedures, compare them with those recommended by NEOPLAN USA Corporation before towing. Use caution to ensure tha the vehicle will not suffer structural damage.

If the vehicle is disabled for reasons other than the transmission, it may be towed up to a distance of 5 miles, in "Neutral", at a maximum speed of 10 mph.

CAUTION

If the vehicle is to be towed with one of the following

conditions,

1. More than 5 miles
2. Excess of 10 mph
3. Damaged transmission

The drive axle shafts must be removed and the openings covered.

Speeds in excess of 15 MPH are not recommended. Exceeding these limits shall automatically void all warranties related to the drive train and connected components.

NOTE: Automatic transmission equipped vehicle cannot be towed or push started.

tow eye access cover (Fig: 1). A minimum of 100 psi/6.9 bar is required.

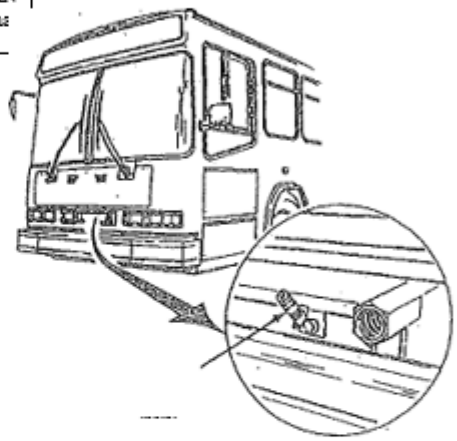


Fig. 1-Air Quick-Disconnect Location

Do not start or run the engine when only jacks support the vehicle.

Towing Procedures

Safety Precautions

The suspension system air bags have a rubberhollow spring

If the air pressure is low and air is available, there is an air quick-disconnect provided behind the front

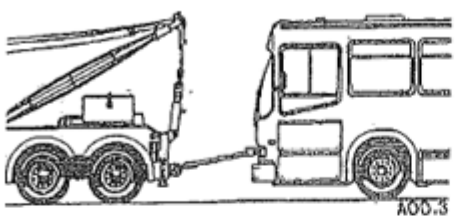


Fig. 2- Front Flat Towing

Front flat towing with the tow bar makes itpossible for the tow truck (minimum capacity 45,000 tow railing) to return the vehicle to the garage without extra personnel. The tow truck must be equipped with a pintle hitch and a 100 psi/6.9 bar air supply. Use the following procedure.

1. If warning signals or triangles are not in place, proceed to set them out in accordance with current state and local requirements.
2. Set the vehicle parking brake and activate the emergency flashers If not already on.
3. Check the rear wheels of the vehicle.
4. Using a T-key, open the tow eye access door. If a T-key is not available, a 1/4" square drive will turn the catch.
5. Unlatch the tow *eye* access door and allow the access door to lie down (if secured by hinges), or remove the door and place inside the vehicle.
6. Locate the tow eyes and thread them into the vehicle frame. Snug the tow eyes to a vertical position.
7. If the vehicle air supply is low, connect the tow truck air to the vehicle air supply (100 psi /6.9 bar minimum). Check the Instrument panel to verify air pressure.
8. Place the tow bar over the eyes in the frame and secure it in place.
9. Back the tow truck toward the front of the vehicle. Use both hand signals to guide the driver. (Fig. 3)

Fig. 3- Positioning Tow Vehicl

Fig.4- Tow Bar Attachment

10. Drop the vehicle tow bar ring into the pintle hitch or the tow truck and lock the pintle hitch. (Fig. 4)

11. Connect the winch cable hook to the hole in the vehicle hitch. (Fig. 5)

Fig. 5-Winch Cable Attachment

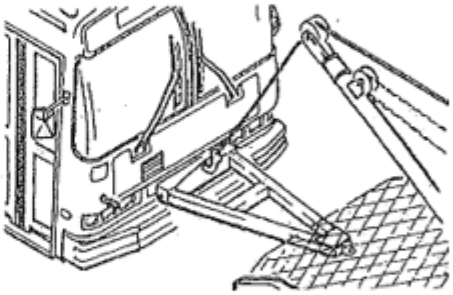
12. Release the parking brake.

13. If an air supply is not available and the parking brake will not release, turn the nut on each drive axle (and middle axle, if applicable) brake chamber counterclockwise until it stops. The brakes will then be released.

CAUTION

Verify the front and rear wheels are chocked, the tow hitch is properly connected to the tow truck, and the tow truck has the parking brake set before turning the brake chamber adjusting nut.

14. Place the transmission in "Neutral", straighten the front wheels and check that the flashers are on. If the flashers will not



work, an emergency connection may be provided to hook the tow truck electrical system.

15. If the vehicle is to be towed more than

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five (5) miles, remove the drive axle shafts

and vehicle drive shaft and cover the drive axle shaft openings so dirt will not enter and lubricant cannot run out.

16. Remove chocks from rear wheels and proceed with CAUTION to the nearest facility.

Flat Rear Towing

WARNING
NEOPLAN USA Corporation does not recommend rear towing except .to position the vehicle in such a manner that front tow configuration and hookup can be made

1. If warning signals or triangles are not in place, proceed to set them out in accordance with current stateandlocalrequirements.

2. Set the vehicle parking brake and activate the emergency flashers if not already on.

3. Check the rear wheels of the vehicle.

4. Back the tow truck into position at the rear of the vehicle.

5. Driver and helper inspect the undersides and the rear of the vehicle and determine if enough clearance is available to pull the vehicle into position for front towing.

If It is determined that there is sufficient clearance to move the vehicle from the rear, proceed as follows:

6. Locate the rear tow eye, immediately below ...the bumper bracket. (Fig. 6)

NOTE: NEOPLAN USA Corporation®

recommends

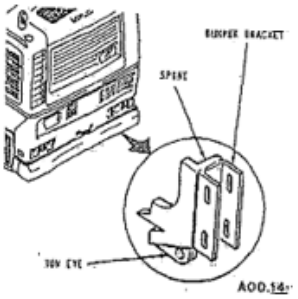
that a chain shackle be used with a ½"/1.3mm, Grade 70 transport chain. The maximum diameter of the shackle boll or pin is 1-1/2"/38 mm.

7. Fasten the shackle to the tow eye. (Fig. 7)

8. Run the 1/2"/13 mm, Grade 70 transport chain through the shackle and secure with the hook on the chain. (Fig. 7).

9. Back the tow truck into position to engage the tow chain in the pintle .hitch. Position the helper so that he/she may direct the driver and fasten the transport chain in the pintle hitch. (Fig. 8)

10, Connect the air hose to the air valve in the engine compartment. Fill the air tanks and bring the air pressure up to 100 psi/6.9 bar minimum. If there is an air hose long enough to connect to the front, this method could be used as an alternative. If air pressure cannot be built up to 100 psi/6.9 bar, then the brakes must be released manually at the rear (& middle, if applicable) axle with the brake chambers.



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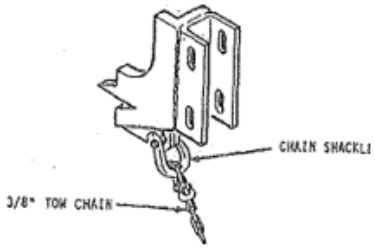

Fig. 7 - Shackle Attachment

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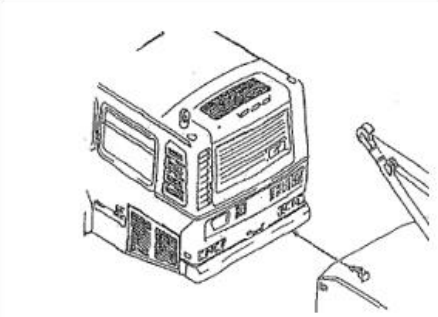
Fig. 8- Transport Chain Attachment



CAUTION

Verify the front and rear wheels are chocked, the low hitch is properly connected to the tow truck, and the tow truck has the parking brake set before turning the brake chamber adjusting-nut.

11. Ensure that the vehicle transmission is in "Neutral".

12. Disconnect the air hose if used, remove the chocks from the wheels and slowly pull the vehicle to a position where the provisions for front towing can be made.

B. Procedures for Removal of Axle Shaft Neoplan/NABI Coaches and Trolleys

1. Make sure the vehicle is on a level surface
2. Make sure the bus engine is off, the parking brake is applied and the Master Battery disconnect switch is "off'.
3. Place blocks under the wheels not being serviced to keep the vehicle from moving.
4. Remove thestud nuts and washers from the flanges of both axle shafts. (Fig. 3)

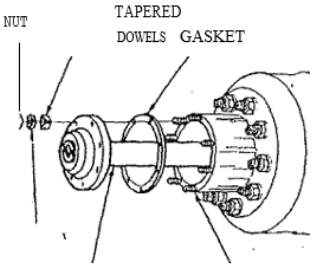


Fig 3

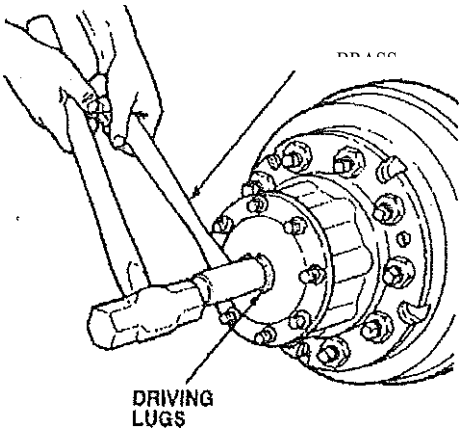
5. If used, loosen the tapered dowels in the flanges of both axle shafts. Refer to the following procedure:
   a. Hold a 1.5" (38.1 mm) diameter brass drift inside the center of the axle shaft INSIDE OF THE ROUND DRIVING LUGS. (Fig.

   NOTE: A 1.511 (38.1 mm) diameter hammer can be used for a drift.

   CAUTION

   Do not use a chisel or a wedge to loosen the axle shafts and the dowels. The chisel or wedge can damage the hub, axle shafts and if used, the oil seals.

   b. Hit the end of the drift with a large 5-6 lb. (2.3-2. 7 kg) hammer and axle shaft to loosen the tapered dowels. (Fig. 4)



6. Remove the tapered dowels. Remove both axle shafts from the axle assy.

CAUTION

Do not use a chisel or a wedge to loosen the axle shafts and the dowels. The chisel or wedge can damage the hub, axle shafts and if used, the oil seals.

C. Procedures for ETI Coach Towing

1. Stow poles under hooks at back of roof unit.
2. Set MASTER RUN SWITCH to the OFF position.
3. Use front hooks, located on the coach frame behind the front bumper.
   i. Use rear tow hooks, located on the coach frame behind the rear bumper when towing the coach from the rear.
4. The coach must be lifted for towing to prevent suspension damage.

5. Attaching of chains to tow hooks is recommended.
6. Hook the other end of the chains to a suitable tow bar on the service vehicle. A load divider, (e.g. 4x4 inch hardwood) is to be placed between the front bumper to support channels and chains.

NOTE:

An auxiliary air connection, 40-psi minimum, must be provided to the coach while towing to prevent automatic application of the parking brake.

PARKING BRAKE RELEASE:

To release the spring-actuated parking brake, the coach air system must have a 90-psi minimum and maintain that for the duration of the tow. If the system is too low, it must be recharged from an auxiliary source using the auxiliary air connections. The front auxiliary connection located behind the bumper (street side) is used for direct hookup to the tow vehicle. There are additional air connections at the rear of the coach (street side) in front of the rear bumper.

If the coach air system is not functional and cannot maintain 40-psi minimum to release brakes, the parking brake must be released mechanically using the following steps.

1. Secure the coach by means other than the brakes prior to mechanically release of the parking release.
2. Locate the mechanical-release stud on the back of each rear-brake chamber.
3. Turn the nut on the stud clockwise (CW) to release the spring brake. The brake is fully released when end of the stud extends 3 inches from end of brake chamber.
4. After completion of the towing operation, turn the release nut on the stud counter clockwise (CCW) back into brake chamber to apply the spring-brake

TOWING, JACKING, HOISTING

Towing. Front tow hooks, located on coach frame behind the front bumper are designed to tow the coach with the front wheels on or off the ground. The brackets are designed for lifting and are to be used with a tow bar.

Axle Shaft Removal

a. Position coach in area that provides adequate room to perform maintenance, with oil-check-and drain plug at 6 o'clock. See Figure 4.2-1.

b. Remove and retain two-hub perimeter bolts that hold hub odometer in position; remove odometer (curbside only).

c. Place a suitable container between planetary assembly and wheel to collect drained hub oil.

d. Remove oil check and drain plug. Drain hub oil.

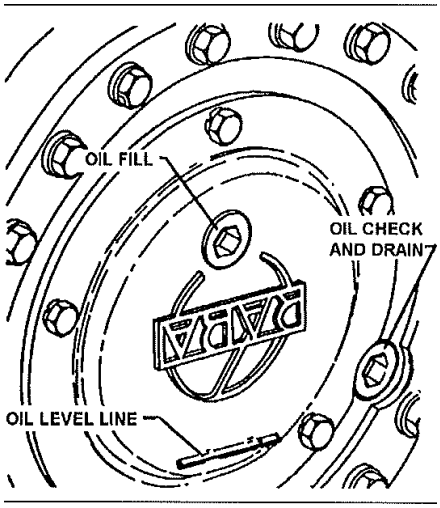
e. Remove and retain hardware that secures hub cover to wheel hub. Remove hub cover.

f. Remove axle shaft with sun gear (axle-shaft puller tool, 4927-00002. Insert behind gear to allow removal of gear and axle-shaft assembly.)

g. Remove and retain retaining ring and washer securing sun gear to axle shaft.

h. Remove and retain sun gear from the axle shaft.

Figure 4.2-1. Hub Cover



The rear tow hooks located on the coach frame behind the rear bumper are to be used when towing the coach from the rear.

The coach must be lifted for towing to prevent suspension damage. Attaching of chains to tow hooks is recommended. Hook the other end of the chains to a suitable tow bar on the service vehicle. A load divider, (e.g. 4x4 inch hardwood) is to be placed between the front bumper to support channels and chains.

NOTE:

Auxiliary air connection, 40-psi minimum, must be provided to the coach while towing to prevent automatic application of the parking brake. Refer to Parking Brake Release in this section.

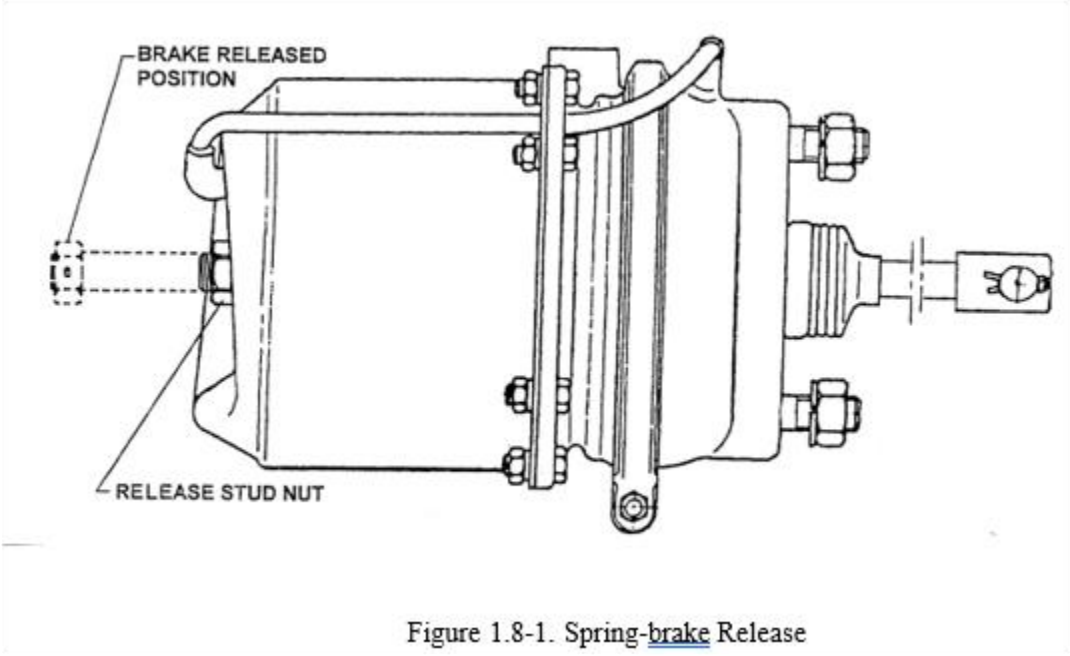


Figure 1.8-1. Spring-brake Release

Parking-Brake Release. To release the spring-actuated parking brake, the coach air system must have a 90-psi minimum and maintain that for the duration of the tow. If the system air pressure is low, it must be recharged from an auxiliary source using the auxiliary air connections. The front auxiliary connection located behind the bumper (street side), is used for direct hookup to the tow vehicle. There are additional air connections at the rear of the coach (street side) in front of the rear bumper.

If the coach air system is not functional and cannot maintain 40-psi minimum to release brakes, the parking brake must be released mechanically using the following steps.

NOTE: Before proceeding, secure the coach by means other than the brakes.

a. Locate the mechanical-release stud on the back of each rear-brake chamber. See Figure 1.8-1.

b. Turn the nut on the stud clockwise (CW) to release the spring brake. The brake is fully released when end of the stud extends 3 inchesfrom end of brake chamber.

c. After completion of the towing operation, turn the release nut on the stud counter clockwise (CCW) back into brake chamber to apply the spring-brake.

D. Procedures for Removal of Axle Shaft Orion VII Coaches and Trolleys

Vehicle Towing

CAUTION

Before towing vehicles equipped with a Hybr/Drive TM Propulsion System, remove both rear axles from the vehicle. Failure to comply will result in damage to the AC Traction Motor and subsequently void warranty coverage of the Traction Motor

Axle Shaft Towing

Brass Drift Method

1. Hold a 1 1/2 inch diameter brass drift against the center of the axle shaft, inside the round driving lugs. See Figure 2-17

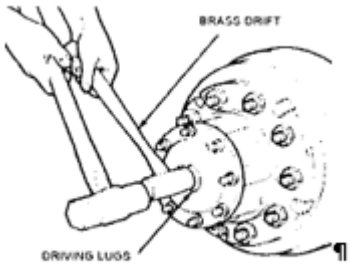


Figure 2-17 Loosening Tampered Dowels

2. Strike the end of the drift with a large hammer five to six pounds and the axle shaft and tapered dowels will loosen. See Figure 2-17.
3. Mark to identify each axle shaft before it is removed from the axle assembly

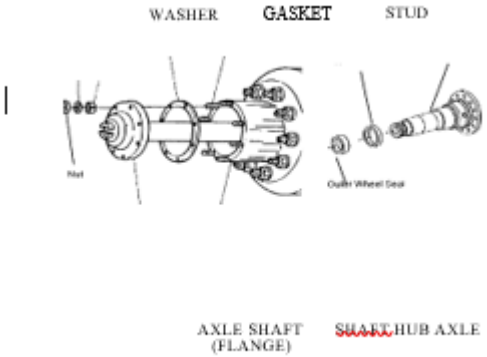


Figure 2-18 Separating Axle Shaft from Main Axle

4. Remove the tapered dowels and separate the axle shafts from the shaft hub axle assembly. See Figure 2-18
5. Install a cover over the open end of each axle assembly hub where an axle shaft was removed.

Air Hammer Vibration Method

WARNING

To prevent serious eye Injury, always wear eye protection when performing vehicle maintenance.

CAUTION I

Do not use a chisel or wedge to loosen the axle shafts and dowels. The chisel or wedge can damage the hub and axle shafts.

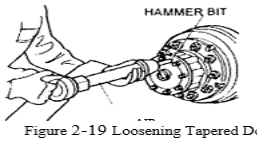


Figure 2-19 Loosening Tapered Dowels

1. Use a round hammer bit and an air hammer or equivalent, to loosen tapered dowels and axle shaft. See Figure 2-19.

2. Place the round hammer bit against the axle shaft flange between the hub studs. Operate the air hammer at alternate locations between the studs to loosen the tapered dowels and axle shaft from the hub. See Figure 2-19.

3. Mark to identify each axle shaft before it is removed from the axle assembly.

4. Remove the tapered dowels and separate the axle shaft from the main axle hub assembly. See Figure 2-18.

Tow eyes are located on the front end and the rear end of the vehicle.

Front Tow Eyes

Only front tow eyes are to be used for towing the vehicle, with all wheels on the ground. If the front end of the vehicle must be lifted, the tow bar must be placed under the front jacking pads shown in Figure 13.

Rear Tow Eyes

Rear tow eyes are not to be used to tow the vehicle. Rear tow eyes are to be used only to position the vehicle (such as pulling the vehicle straight out of a ditch). If rear end lifting of the vehicle is required for towing, the tow adapters must be placed under the rear safety stand pads as shown in Figure 12.

General Precautions

1. Make sure that towing vehicle complies with all state, provincial, and local laws. These laws govern the required use of warning signals, night illumination, and speed limits.
2. A safety chain system is completely independent of primary towing attachments, must be used.
3. Never tow a vehicle over 35 m.p.h. (55 km/hr.).
4. Refrain from going under a vehicle that has to be lifted, unless the vehicle is properly blocked and supported.
5. Do not attempt any towing operation which might jeopardize the safety of the operator, bystanders, or other motorists.
6. Secure all loose or protruding parts of damaged vehicles prior to towing.
7. If the rear wheels are to be left on the ground during the tow (front towing only), make sure to:
    a. Place the shift selector in the Neutral position;
    b. As a primary and recommended option, mechanically disconnect the driveshaft; or
    c. As a secondary option, remove the rear axle stub shafts, and cover the shaft openings to prevent loss of lubricant and ingress of foreign material.
8. Provide a minimum auxiliary air supply of 70 psi (normally from the towing vehicle) to the vehicle being towed. This allows adequate air to hold off the spring brakes and maintain the suspension height.

Front Towing

Towing Bus from Front Frame with 3 Stage Tow Truck Stinger

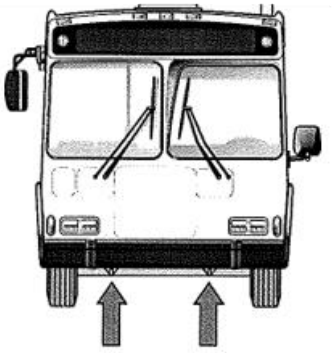
In order to tow the bus, a "double pick up" procedure will have to be performed.

This procedure consists of lifting the vehicle at the front pick-up jack pads with bottle jack (10T), floor jack, or with the tow truck stinger from under the front frame. The vehicle is to be lifted up to the point that a wooden block (4" x 4") could be placed under each tire. Once the wooden blocks are in place, the forks should be installed at the stinger, then the bus is to be lifted for the second time using the stinger.

CAUTION!

The two tow eyes are provided for use with a tow bar only. Lifting the vehicle by the tow eyes may result In structural damage, do not lift the vehicle by the tow eyes.

1. Locate the tow eyes on the main frame braces just beneath the front bumper (see figure 13)



TOW EYES 00-7-7

Figure 13 Front Tow Eyes

2. Locate the front shop air filler valve behind the windshield washer fill door (see Figure 14).

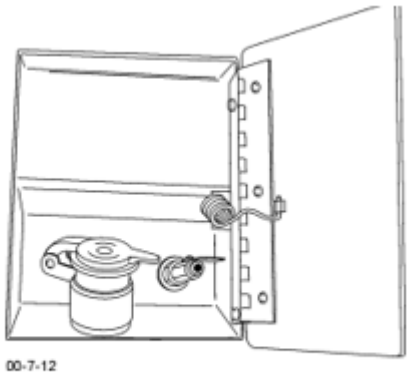


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Figure 14 Front Shop Air Valve

3. Connect the towing vehicle's auxiliary air supply to the air filler valve of vehicle to be towed
4. Attach the tow bar (see Figure 15) to the front tow eyes and secure it to the towing vehicle. Ensure that the necessary safety precautions are observed, connecting devices are engaged and a secondary fastening system (i.e., safety chain) is secure.

Figure 15 Tow Bar Assembly

5. Ensure that the shift selector is in the Neutral position and the rear axle stub shafts are removed.

Lift Tow

CAUTION!

Never lift tow the vehicle by the front bumper frame.

1. Extend the tow truck lifting arms so that the claws grasp the vehicle frame at the jacking/safety stand positions just forward of the front wheels (see Figure 16).

NOTE

A 7' stinger boom extension rated for 20,000 lbs is the minimum requirement when towing from the front with 2" forks.

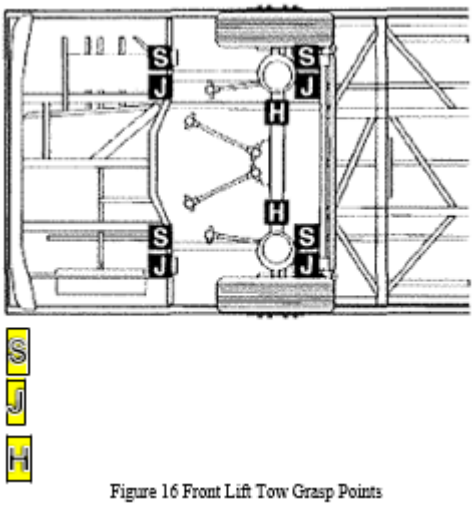


Figure 16 Front Lift Tow Grasp Points

2. Ensure that the necessary safety precautions are observed, connecting devices are engaged and a secondary fastening system (i.e., safety chain) is secure.
3. Connect the tow truck's auxiliary air supply to the front air filler valve of vehicle to be towed.
4. Ensure that the shift selector is in the Neutral position, the rear axle stub shafts

are removed.

5. Lift the front of the vehicle until the front wheels leave the ground and commence the tow.

Rear Towing

Towing Bus from Rear Frame with 3 Sage Tow Truck Stinger

In order to tow the bus, a "double pick up" procedure will have to be performed. This procedure consists of lifting the vehicle at the rear pick-up jack pads with bottle jack (10T), floor jack, or with the tow truck stinger from under the rear frame.

The vehicle is to be lifted up to the point that a wooden block (4" x 4") could be placed under each tire. Once the wooden blocks are in place, the forks should be installed at the stinger, then the bus is to be lifted for the second time using the stinger.

CAUTION!

Do not flat tow the vehicle from the rear as it will be too difficult to maneuver.

NOTE

A 9' stinger boom extension rated for 20,000 lbs. is the minimum requirement when towing from the rear with 4" forks.

Using Towing Arms

1. Ensure the tow arm adapters properly engage the towing/jack pads. See Figure 17.

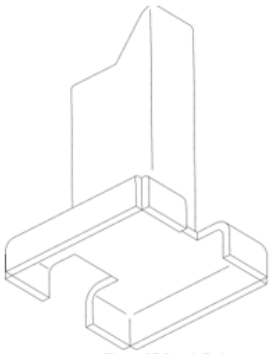


Figure 17 J a c k Pad

NOTE

2. Ensure that all safety devices (safety chains, etc.) are in place.
3. Connect the towing vehicle's auxiliary air supply line to the rear shop air filler valve (Figure 18).

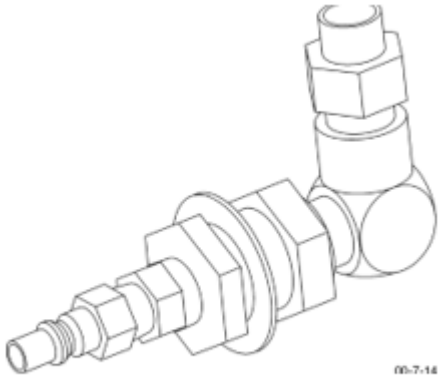


Figure 18 Rear Shop Air Valve

4. Secure the steering wheel to minimize the movement of the front of the vehicle.
5. Lift the vehicle until the rear wheels leave the ground and commence the tow.

NOTE

The rear filler valve is located in the air dryer compartment on the roadside of the vehicle, in front of the rear wheels.

Using Towing Chain

1. Position a section of protective lumber under the bumper and wrap the towing chain around the chassis frame (on both sides) at least once.
2. Make sure that all safety devices (safety chains, etc.) are in place.
3. Connect the towing vehicle's auxiliary air supply line to the rear shop air filler valve in the engine compartment.
4. Secure the steering wheel to minimize the movement of the front of the vehicle.
5. Release the parking brake and commence the tow.

12. VEHICLE TOWING

Failure to comply with the safety precautions in this section could result in personal injury or vehicle damage. ALWAYS follow the recommended procedures.

☞NOTE:

The operator of the towing vehicle is ultimately responsible for safely securing and towing the vehicle. Ensure that the operator of the towing vehicle is aware of the safety requirements and towing procedures contained in this section.

12.1. Towing Safety

- ❒ Follow all State (provincial in Canada) and local traffic.
- ❒ A vehicle safety restraint system must be used that is independent of the primary lifting and towing attachments.
- ❒ All loose or protruding parts of a damaged vehicle should be secured prior to towing.
- ❒ Do not go under a vehicle which is being lifted by the towing equipment, unless the vehicle is adequately supported by safety stands or appropriate blocking.
- ❒ No towing operation should be attempted for any reason which jeopardizes the safety of the operator, wrecker, bystanders or other motorists.
- ❒ Do not exceed the recommended maximum speed of 35 mph (55 km/h) while towing.
- ❒ Reduce speed over uneven roads, railway tracks or other obstacles.
- ❒ Do not exceed the maximum front and minimum rear clearance specifications when the vehicle is raised. Refer to 12.2.2.4. "Maximum Lifting Height" on page 45 and Refer to 12.2.2.5. "Minimum Vehicle Ground Clearance" on page 45 in this section for dimensions and measuring methods.
- ❒ The vehicle being towed must have its steering secured with the wheels positioned straight ahead.
- ❒ If the vehicle being towed is not equipped with an electrical plug for operating the vehicle tail lights, a light bar must be placed at the rear bumper of the towed vehicle.

12.2. Description

! CAUTION

Care must be taken to ensure that the vehicle will not suffer structural or drive train damage as a result of towing. The driveshaft or both rear axle shafts must be removed when towing, regardless of distance or speed traveled. Damage to the transmission/drive unit may occur if the vehicle is towed without first removing the driveshaft or rear axles.

The New Flyer vehicle can be towed from the front using either the flat or raised method.

in this section for flat towing procedures.

in this section for raised towing procedures. New Flyer recommends the flat towing method to minimize the likelihood of damage to the vehicle. Extra care must be taken when using the raised towing method to ensure adequate ground clearance at the rear of the vehicle. Rear towing is not recommend due to insufficient ground clearance at the front of the vehicle and the problem of locking the front wheels in a straight position.

☞NOTE:

Consult your local Transit Authority for any specific towing procedures and use them carefully in conjunction with the recommended towing procedures contained within this section.

12.2.1. Flat Towing

12.2.1.1.Preparation

1. Prepare the vehicle for towing by removing either the driveshaft or both rear axle shafts.

   and

   in this section for procedure.

2. Obtain an approved towing adapter kit if one is not already provided. The towing adapter used for flat towing consists of two L-shaped brackets, clevis pins and cotter pins. Refer to your New Flyer Parts Manual for towing adapter ordering information.

☞NOTE:

The towing adapters mount into receivers in the front frame of the vehicle and provide the proper offset and clearance to allow the attachment of towing equipment.

12.2.1.2.Towing Adapter Installation

1. Install each tow adapter into a receiver and locate with a clevis pin.
2. Secure each clevis pin with a cotter pin.
3. Attach the towing vehicle equipment to the tow eye of each towing adapter. The method used will vary depending on the type of towing equipment available.
4. Secure the towing vehicle to the tow adapters. The method used will vary depending on the type of towing equipment available.
5. Attach two safety restraint chains from the towing vehicle to a fixed location on the towed vehicle.
6. Connect the towing vehicle air line and electrical harness to the respective tow connectors on the towed vehicle.

☞NOTE:

An auxiliary air supply must be provided to the vehicle being towed to release the spring brakes and maintain suspension height. The auxiliary air supply should be a minimum of 100 psi.

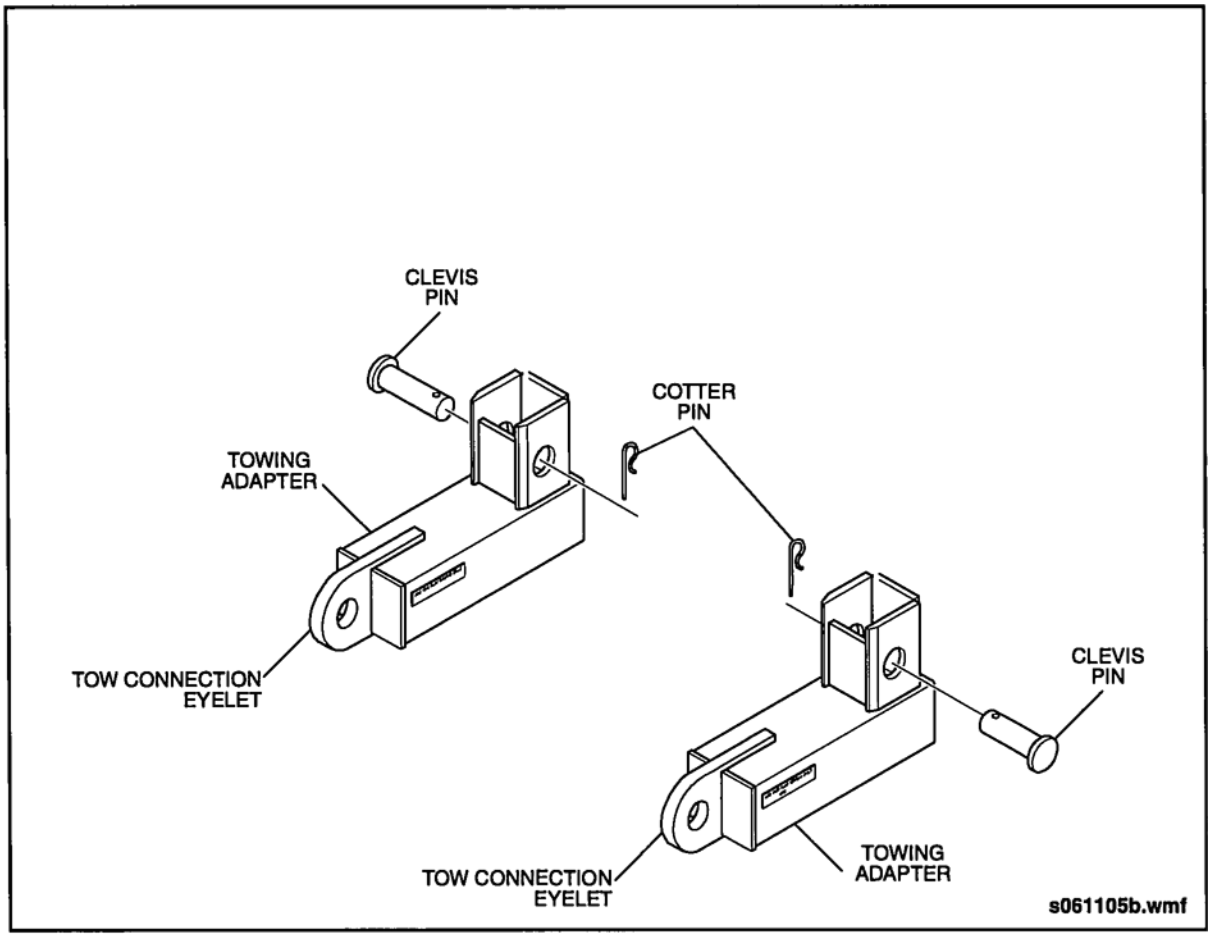


Fig. GI-21: Flat Towing Adapter

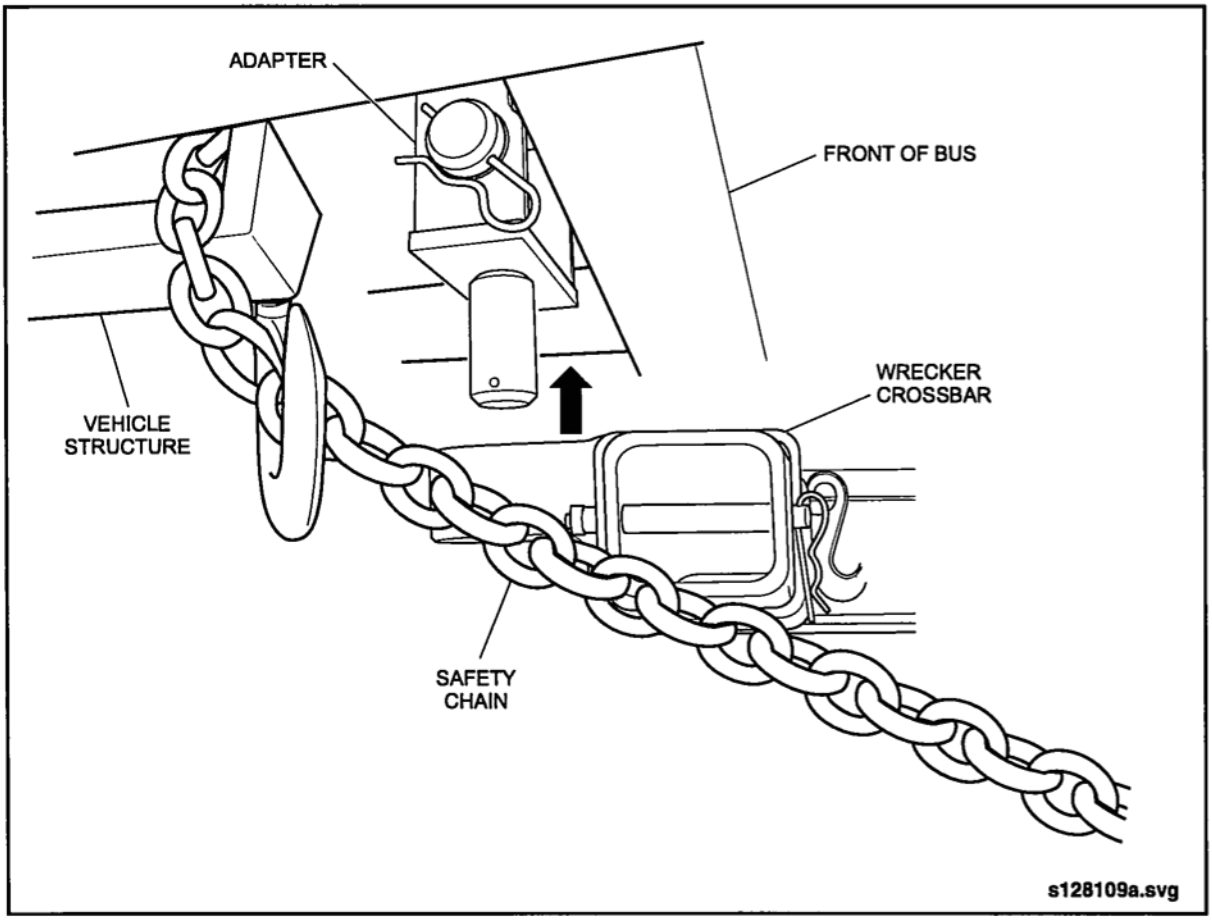


Fig. GI-22: Safety Chain

12.2.2. Raised Towing

12.2.2.1.Preparation

1. Prepare the vehicle for towing by removing either the driveshaft or both rear axle shafts.

   and

   in this section for procedure.

2. Obtain an approved towing adapter kit if one is not already provided. The towing adapter kit used for raised towing is a peg and socket configuration that consists of two U-shaped lift adapters that attach to the towed vehicle and two lift receivers that slide onto the towing vehicle crossbar. Refer to your New Flyer Parts Manual for towing adapter ordering information.

☞NOTE:

The towing adapters mount into receivers in the front frame of the vehicle and provide the proper offset and clearance to allow the attachment of towing equipment. The towing adapters are designed to work with Century 9055 Wrecker towing equipment.

12.2.2.2.Lift Adapter/Receiver Installation

1. Install the lift adapters onto the towed vehicle as follows:
   a. Slide lift adapter into vehicle receiver and locate with a clevis pin.
   b. Secure each clevis pin with a cotter pin.
2. Install the lift receivers onto the towing vehicle crossbar and slide into position so that they align with the towed vehicle lift adapters.

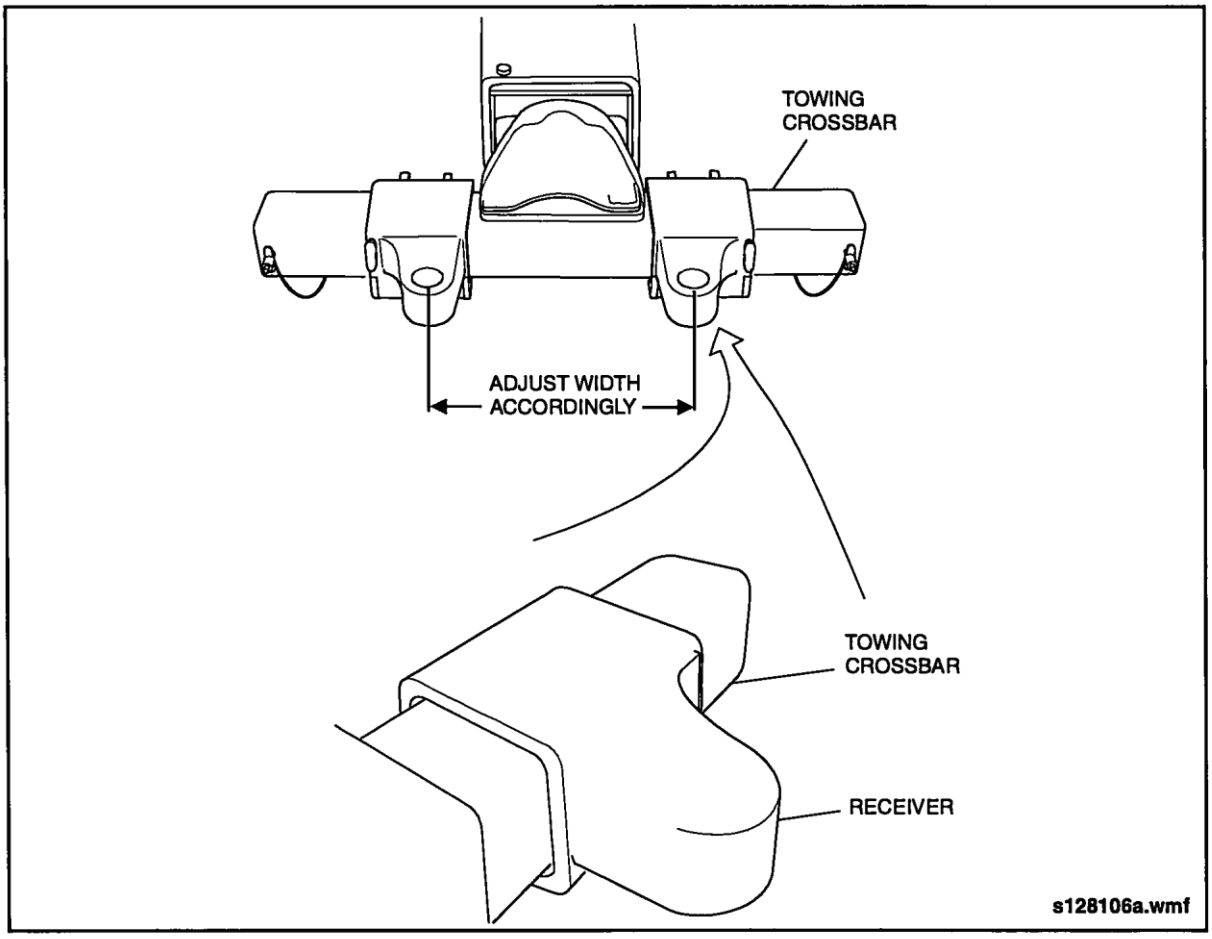


Fig. GI-23: Lift Receiver Installation

NEW FLYER

VEHICLE TOWING

12.2.2.3.Raising & Securing the Vehicle

1. Position the wrecker's lifting boom with the lift receivers in place under the pegs of the lift adapters. See "Fig. GI-24: Securing the Lift Receivers to the Lift Adapters" on page 44.
2. Slowly raise the boom until the socket on the lift receivers engage the pegs on the lift adapters. Make any necessary adjustments to the lift receiver positions to ensure proper engagement.
3. Continue to raise the lifting boom until the lift adapters are fully engaged into the receivers.
4. Insert the lock pin through the lift adapters.
5. Raise the front wheels to the height recommended for the specific vehicle being towed and check vehicle ground clearance. Refer to 12.2.2.4. "Maximum Lifting Height" on page 45 and Refer to 12.2.2.5. "Minimum Vehicle Ground Clearance" on page 45 in this section for recommended limits.
6. Connect the towing vehicle air line and electrical harness to the respective tow connectors on the towed vehicle.

NOTE:

An auxiliary air supply must be provided to the vehicle being towed to release the spring brakes and maintain suspension height. The auxiliary air supply should be a minimum of 100 psi.

7. Attach two safety restraint chains from the towing vehicle to a fixed location on the towed vehicle.
8. Check to ensure that all clevis and cotter pins are properly inserted, towing equipment is fully engaged and safety chains are clear of the vehicle body before final raising and towing the vehicle.
9. Secure the steering system as follows:
   a. Rotate the steering wheel to position the wheels in the straight ahead position.
   b. Secure the steering system in this position by looping the driver's seat belt around the lower portion of the steering wheel and clipping it into the seat belt buckle. See "Fig. GI-25: Securing the Steering System" on page 45.

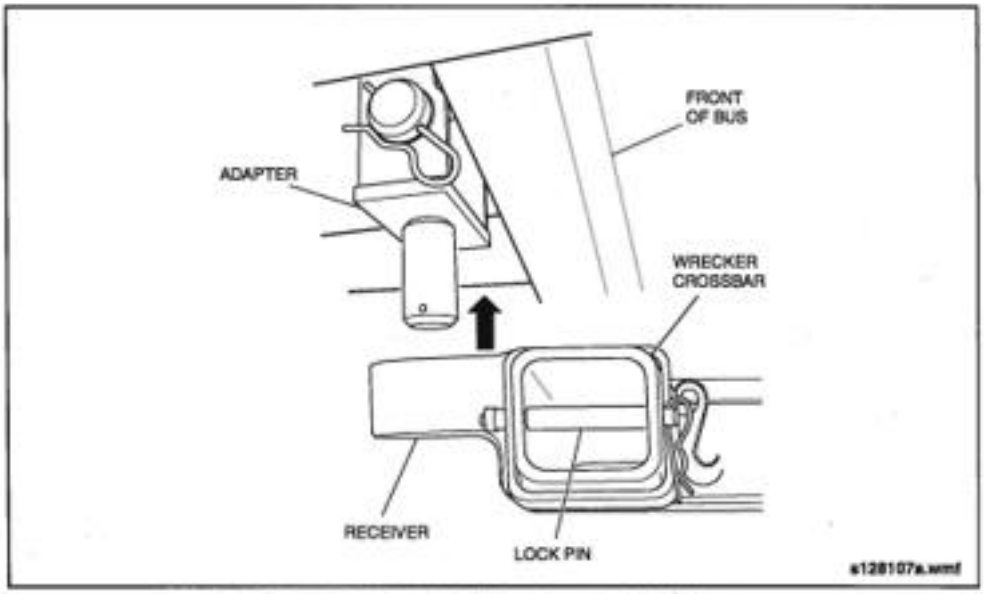


Fig. GI-24: Securing the Lift Receivers to the Lift Adapters

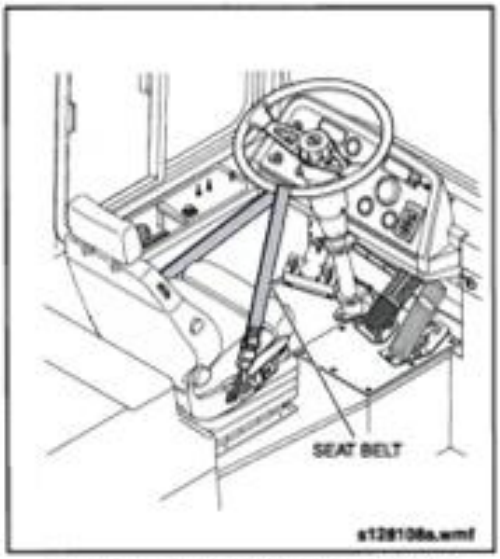


Fig. GI-25: Securing the Steering System

12.2.2.4.Maximum Lifting Height

Maximum raised height, as measured from the bottom of the front tire to the ground must not exceed 9.0 inches (22.8 cm).

12.2.2.5.Minimum Vehicle Ground Clearance

Rear bumper clearance must not be less than 12.5 inches (31.75 cm) as measured from the bottom of the bumper to the ground. See "Fig. GI-26: Rear Bumper Clearance Measurement" on page 45.

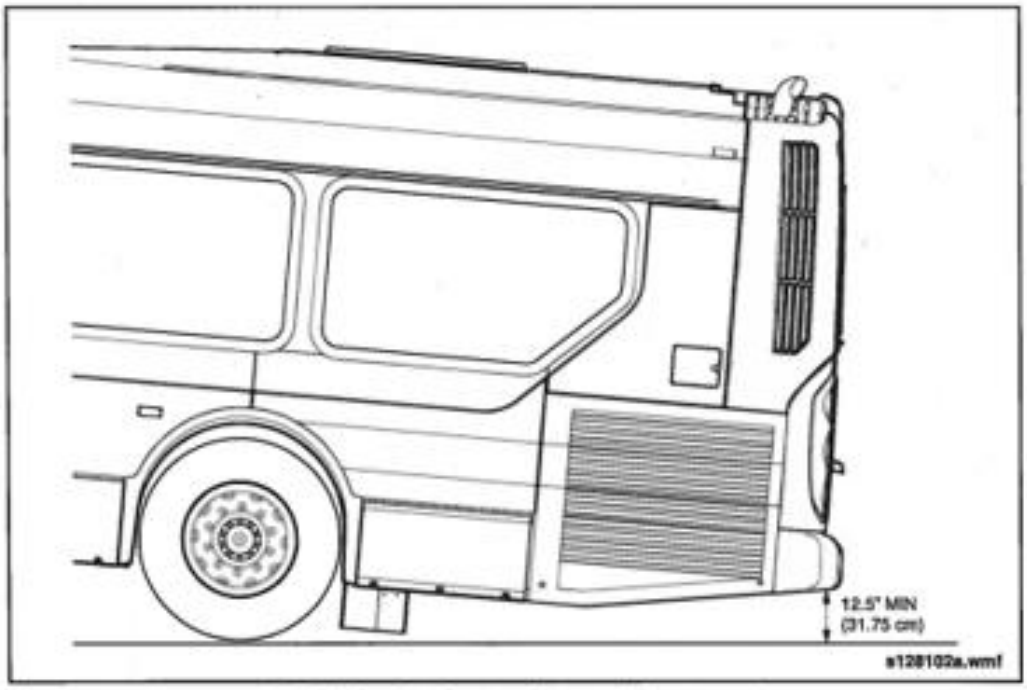


Fig. GI-26: Rear Bumper Clearance Measurement

12.3. Driveshaft Removal

NOTE:

This procedure describes removing the driveshaft from the interior of the vehicle which eliminates jacking the vehicle and placing it onto supports.

NOTE:

Removal of axle shafts is not recommended by the axle manufacturer due to the likelihood of debris entering the axle housing while towing the vehicle.

1. Check that the vehicle is on solid ground and is safe to enter.
2. Place safety triangles on the road to warn approaching vehicles.
3. Remove the driveshaft access door and driveshaft plate. Refer to Section 15 of this manual for procedure.
4. Remove the driveshaft and pull it through the access opening.
5. Reinstall the access plate to keep debris out of vehicle
6. Setup the towing equipment and retrieve the safety triangles.

12.4. Rear Axle Shaft Removal

⚠CAUTION

The axle shafts or the driveshaft must be removed before towing the vehicle.

1. Remove the ten M6 bolts that retain the axle shaft to the hub and carefully slide out the axle shaft.
2. Seal the axle housing opening using a commercially available cover plate.
3. Protect the axle shaft and temporarily store inside the vehicle while being towed.
4. Repeat procedure for opposite axle shaft.
5. Vehicle is now ready for towing.

12.5. Spring Brake Release

NOTE:

The following procedure is required to mechanically release the emergency/parking spring brake during towing if the brakes cannot otherwise be released using air pressure.

1. Locate the release bolt in the center of the brake chamber.
2. Cage the rear brake chamber by unscrewing the release bolt. Do not exceed a force of 74 ft-lb. (100 Mm) during caging. The chamber is caged when the head of the release bolt extends approximately 1.36 ± 0.12" beyond the surface of the brake chamber.

12.6. Vehicle Removal from Ditch

12.6.1. Chain Pulling Procedure

⚠CAUTION

DO NOT use a chain connected directly to the front or rear bumpers to pull the vehicle.

12.6.1.1.Pulling from the Front

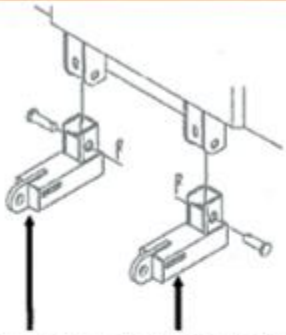
1. Connect a chain hook onto one side of each tow adapter pin hole, in the front structural tow connectors, located behind the front bumper.
2. Protect the front bumper during pulling with a 4" x 4" or equivalent wood block placed between the chains and the bottom of the front bumper.
3. With the assistance of a driver to steer the vehicle, release the parking brake and pull the vehicle from the ditch.

12.6.1.2.Pulling from the Back

1. Connect a chain hook onto each tow pin located in each main rail behind the rear bumper.
2. Protect the rear bumper during pulling with a 4" x 4" or equivalent wood block placed between the chains and the bottom of the rear bumper.
3. With the assistance of a driver to steer the vehicle, release the parking brake and pull the vehicle from the ditch.

NEW FLYER | TRAINING

Front Tow Adapters & Tow Bar (Flat Tow)



Tow Adapters installed into the front frame below front bumper.

- Tow bar installed onto towing adapters.
- The LF front tow adapter kit is part number NF 6343110. The kit includes two brackets, two cross pins, and two retaining snap pins.
- Note: The front tow adapters for the Xcelsior coach is NF 6395097.
- The tow bar part number is NF 111248. Note: not exactly as illustrated.

LF Raising/Lifting/Towing/Pulling Rev 2 Sept.10

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NEW FLYER | TRAINING

Lift Towing From The Front

- Lift towing from the front of the coach can only be accomplished using the appropriate adapters .
- The adapters and mounting brackets can be purchased from New Flyer.

LF Raising/Lifting/Towing/Pulling Rev 2 Sept.10

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NEW FLYER

#Option 201 I Model: Xcelsior I Length: 40-ft, 35-ft, 60-ft I Type: Low Floor I Propulsion: ALL

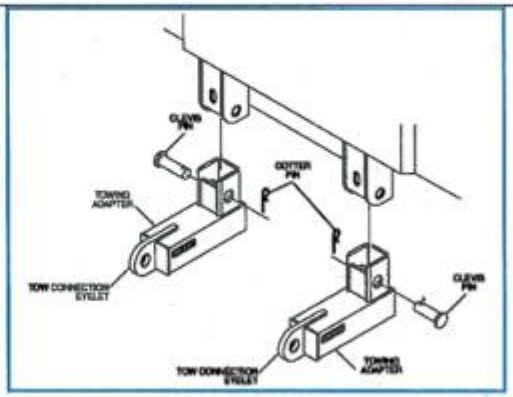
TOWING

When towing low floor buses extreme care, caution and attention is required. The driveshaft (or rear axle shaft which will require commercially available cover plate to seal the axle housing and not part of the New Flyer Towing Kit) must be removed, regardless of distance or speed traveled, to prevent damage and voiding warranty to the power train components. All safety precautions should be followed as identified in New Flyer's service manuals.

Any specific towing procedures should be compared carefully with the procedure specified in the New Flyer's service manual.

Front Flat Towing:

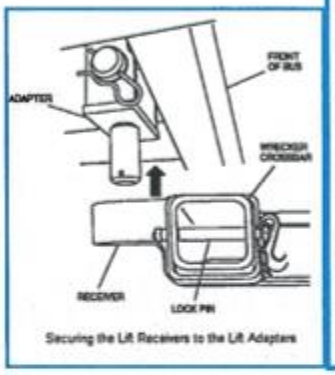
- Front flat towing is the recommended procedure for the low floor vehicle using the towing adapter kit to avoid bumper damage
- The method used will vary depending on the type of towing equipment at the disposal of the transit company
- The towing device will withstand, without permanent deformation, tension loads up to 1.2 times the curb weight of the bus within 20 degrees of the longitudinal axis of the bus
- New Flyer has successfully tested the front static and dynamic towing procedure at the Altoona Bus Testing facility



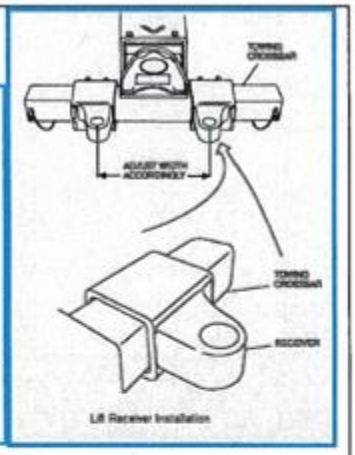
Front Towing Adapters

Raised Front Towing:

- Raised front towing can be performed with an approved New Flyer towing adapter kit
- The towing adapter kit is made of a peg and socket configuration that consists of two U-shaped lift adapters that attach to the towed vehicle and two lift receivers that slide onto the towing vehicle crossbar



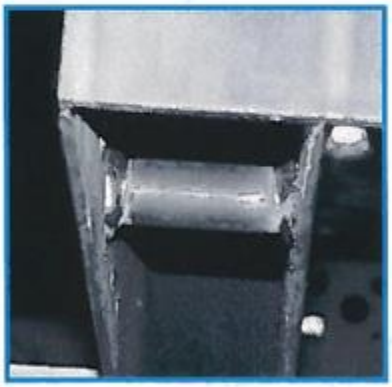
Securing the Lift Receivers to the Lift Adapters



Lift Receiver Installation

Rear Vehicle Recovery Provision:

- Rear towing is not a recommended procedure for the low floor vehicle due to insufficient ground clearance and the problem of locking the front wheels in a straight position
- The rear towing provision is strictly to facilitate extraction of a disabled vehicle when the front towing is inaccessible
- The rear vehicle recovery provisions include a 1.25-inch diameter steel pin inserted laterally and welded in place through the side of each rectangular engine rail



When towing 60-ft buses the operator must be very vigilant of the road conditions at all times, must decide, based on the low towing ground clearance of a articulating coach, if towing can be accomplished without damage to the vehicle, over the route of where the coach has to be taken. The procedure should be followed as specified in the New Flyer's training manual.

Towing instructions for Proterra Coaches and Trolleys

Chapter 21: Jacking, Towing and Trailering

Overview

This vehicle has specific requirements for jacking, towing and trailering. Failure to adhere to these requirements can result in severe damage to the bus.

About Jacking

The bus will need to be jacked up to replace a flat or damaged tire.

Jack Points

CAUTION

A 5-ton jack is the minimum recommended for jacking the bus and under no circumstances should this bus be jacked (for maintenance or repairs) other than the locations indicated. Serious structural damage will occur if jacking in undesignated locations.

Note: Front jack points are located behind the front wheels. The rear jack points are located forward of the rear wheels.

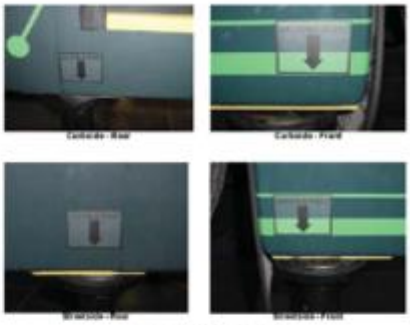


Figure 21-1. Jack Point Locations

Note: The jacking and tire replacement responsibility will be for the service vehicle and service personnel. Only trained, authorized personnel should perform this procedure.

DANGER

Lifting the bus improperly can cause serious damage to the bus and may be hazardous to personnel. Proper jack points and equipment must be used to lift the bus safely.

The locations shown below are the Proterra Recommended jacking/hoisting locations.

Figure 21-2. Proterra Recommended Jacking Points

NOTICE If the Jacking Plates can't be used, the preferred method to lift the bus is by using the Rear Axle and the Front 35" Lifting Areas, shown below. The 35" Rear Lifting Areas may also be used if you can't lift by the Rear Axle.

The bus may be picked up by the following locations, but **MUST** have a surface area of no less than 5 square inches per mounting pad that contacts the bus body. The zones shown below are acceptable lifting areas.

Figure 21-3. Proterra Recommended Lifting Zones

This bus should never be lifted by the front suspension A-arms. The following photographs show front end damage due to improper lifting.

Figure 21-4. Front Suspension Damage Due to Improper Lifting

NOTICE If it is necessary to lift by the front suspension, only lift with the jack placed on

Catalyst Jack Stand Placement

When supporting the bus on jack stands, it is recommended to place the stands as close as possible to the designated jacking points. The jack stands may be placed on the outer edge of the composite body structure or along the inner edge of the forward rear bulkhead as shown below.

WARNING

Be aware of the location of the battery pack enclosures and mounting brackets and DO NOT place the jack stands in a location that may contact these components.

If placing jack stands under the rear axle, place the jack stands as far outboard the outside edge of the rear axle as possible. If placing a jack stand under the front suspension, place the jack stands on the front suspension structure.

Never support the bus using the front suspension A-arms or in any other location not designated below. Serious damage or personal injury may occur.

WARNING

Figure 21-5. Proterra Recommended Lifting Zones

CAUTION

If the front suspension is not supported when lifting or placed on jack stands, you must drain the air from the front air bags to prevent damage to the front

Jacking Up a Catalyst Bus

Perform the following to jack up a Proterra Catalyst.

1. Ensure bus is turned on and the minimum air pressure is above 130 psi (i.e. compressor has just filled up the system) as displayed on the driver screen.

Figure 21-6. Driver Screen Showing Air System Pressures

2. Press and hold the temporary ride height "raise" button on the dash for 15 seconds or until the bus has raised completely up.

Figure 21-7. Temporary Ride Height Buttons on Driver Dashboard

3. Open the appropriate VEC access panel and remove the VEC locking cover to access the circuit breakers.

4. Turn off the ride height system by removing the appropriate circuit breaker. This is necessary to ensure the bus does not try to level itself while jacking.

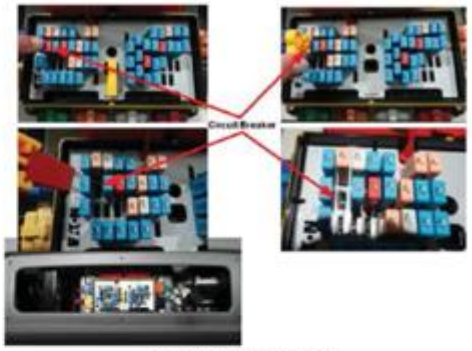


Figure 21-8. Opening the Access Covers

Figure 21-9. Circuit Breaker

6. Upon completion re-install circuit breaker. The ride height system will automatically adjust itself once air pressure has built up in the system.

7. In the event it is not possible to use the temporary ride height increase button, the ride height can be raised manually by using the Schrader fill ports behind the streetside rear lower access panel. Ride height must breaker must be removed for the manual air bag fill process to work.

Schrader Manual Air Bag Fill Ports

Figure 21-10. Manual Air Bag Fill Ports (behind rear curbside access panel)

8. Using an air chuck, apply air to the appropriate corner. Do not inflate the air bags to more than 130 psi.

About Towing

The bus will need to be towed by the transit agency service vehicle if a total power failure occurs, or if the bus has accidentally driven off a paved surface, and is not able to return. The following procedures describe the method used to flat tow a Proterra bus. These procedures are also applicable to winching a bus onto a trailer.

Prior to towing the Catalyst vehicle, ask and answer the following questions to determine the appropriate procedure(s) to follow:

1. Does the bus have available high-voltage electrical power?
   - YES - Check the operational status of the air compressor.
   - NO - Cage the brakes.
2. Is the air compressor operational?
   - YES - Use the air compressor to release the brakes. Do not cage the brakes.
   - NO - Manually air the bus and listen for potential air leaks.
3. Is there an air leak preventing the brakes from being released?
   - YES - Cage the brakes.
   - NO - Manually air the bus and release the brakes.
     - The Brake Release knob on the left console can be used to supply air to the rear brakes, as needed.
4. Does the bus need to be repositioned for towing?
   - YES - See the *Positioning the Bus for Towing* section of this chapter.
   - NO - Continue with the towing procedure.
5. How far do you need to tow the bus?
   - Less than 1 mile - Do not remove the half shaft.
   - Greater than 1 mile - Remove the half shaft.

CAUTION

DO NOT flat tow the bus (drive wheels on the ground) over 1 mile at speeds above 20 MPH unless you have removed the half-shaft from the rear axle. **Severe damage to the transmission will occur if this caution is not heeded.**

To remove the half-shaft from the rear axle, reference the ZF AV-132 DROP CENTER AXLE Repair Manual.

NOTICE Check and grease the o-ring on the half-shaft ring nut prior to re-installing the half-shaft. The M18 bolts will need to be cross torqued to 440 Nm.

Figure 21-11. Rear Axle Half-Shaft

Vehicle Ride Height Preparation

1. Maximize ride height by pressing and holding the ride height button until maximum ride height is reached. Turn off the Master Switch at the Driver's workplace.

Figure 21-12. Maximize Ride Height and Turn OFF Master Switch

2. If you do not have power, have the tow truck driver manually air each of the four corners using the Schrader valves located behind the streetside lower rear access panel.

Figure 21-13. Schrader Valves

3. Open the appropriate access panel and remove the VEC locking cover to access the circuit breakers.

4. Turn off the ride height system by removing the appropriate circuit breaker. This is necessary to ensure the bus does not try to level itself while lifting and towing.

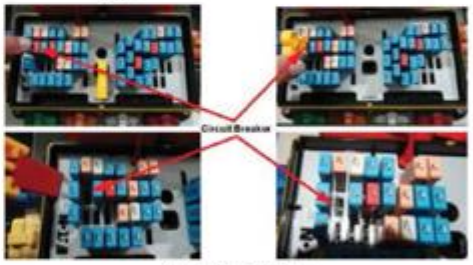


Figure 21-15. Circuit Breaker

Brake System Caging (Disconnect) Procedure

1. In order to cage or disconnect the rear brakes, you must remove the rear brake canister access plug on each rear wheel well.
NOTE: You may need to remove seats to access this plug.

Figure 21-15. Rear Brake Access Plug

2. Using a ratchet with an extension, turn the brake caging bolt counter clockwise to disengage the rear brake. Repeat for both sides.

Figure 21-17. Brake Caging Access Panel

3. Follow the vendor recommended procedure for disconnecting the braking system. Reference Bendix Technical Bulletin TCH-003-006 for the Brake Actuator Caging Procedure.

Manually Airing the Bus for Towing

The following procedures should be performed if the bus has no power AND the air compressor is not operational.

1. If attaching air from the tow vehicle to the front of the bus, locate the air receptacle behind the front bumper on the curbside of the vehicle. Attach the air connection from the tow truck to the bus front air receptacle.

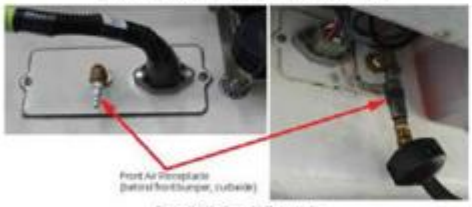


Figure 21-18. Front Air Receptacles

2. If the bus must be extracted by attaching to the **rear** of the bus, open the streetside rear lower access panel on the bus to access the rear air receptacle and attach the air connection from the tow truck to the rear air receptacle, shown in the following figure.

Figure 21-19. Rear Air Receptacle for Tow Truck Attachment

Positioning the Bus for Towing

CAUTION **Do NOT attempt to tow or hoist the bus from any other location, except that depicted here.**

Front Extraction or Winching Attachment Points

Front extraction or winching may be required to reposition a Prevost bus for towing. If rear extraction is necessary, reference the Rear Towing Attachment Points procedure and only rear tow the bus in order to position it for front towing.

1. For front extraction, route a tow strap through the tow pockets and use the tow truck to reposition the bus.

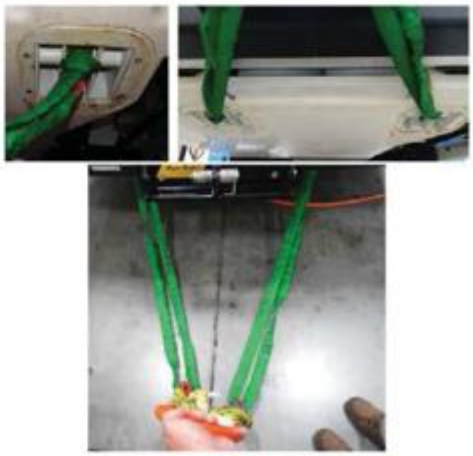


Figure 21-20. Front Extraction - Tow Pockets

Rear Towing Attachment Points

CAUTION Bus should be rear towed only in the event of an emergency or if bus is in a "nose-in" situation. When the front of the bus is cleared, the tow apparatus should be moved to attach to the front tow position.

1. If the bus must be rear extracted, open the rear trunk and locate the rear extraction attachment points on the ProDrive frame.

Figure 21-21. Rear Extraction Points on ProDrive Frame

2. Attach clevis hooks (with tow strap) to each of the rear attachment points.

Figure 21-22. Rear Extraction - Clevis Hook Attachment

3. Use the tow truck to reposition the bus for front extraction or towing.

Front Towing Attachment

Front towing is the preferred method when transporting a Proterra bus.

1. Locate the tow truck to access the front of the vehicle.

Figure 21-23. Tow Truck Positioned for Front Extraction

2. The tow truck driver then lowers the stinger, positions it for lifting the front of the bus, and installs the lifting forks.

Figure 21-24. Positioning Stinger Under Front of Bus

3. Reposition the lifting forks to align with the front tow pockets.

Figure 21-25. Repositioning Tow Forks to Align with Tow Pockets

4. Carefully raise the stinger to mate the tow forks with the tow pockets and lift the front of the bus off the ground.

Figure 21-26. Lift the Bus

5. Wrap safety chains around each towing attachment point and secure.

Figure 21-27. Install Tow Fork Safety Chains

6. Install Safety Straps/Safety Chains between the tow pockets of the bus and the tow vehicle.

Figure 21-28. Install Tow Fork Safety Chains

7. Connect the tow vehicle wiring harness to the front of the bus to allow operation of the bus brake lights and turn signals.

Figure 21-29. Bus Towing 7-Pin Wiring Connector

8. With the bus secured by the tow truck, remove the half shaft on the non-traffic side of the vehicle (streetside shown).

Figure 21-30. Removing the Half Shaft

CAUTION **DO NOT** flat tow the bus (drive wheels on the ground) over 1 mile at speeds above 20 MPH unless you have removed the half-shaft from the rear axle or unless you have disconnected and removed the drive shaft. **Severe damage to the transmission will occur if this caution is not heeded.**

9. To remove the half-shaft from the rear axle, reference the ZF AV-132 DROP CENTER AXLE Repair Manual. To remove the drive shaft, reference the Proterra Removal Procedure.

10. Tow or winch normally according to the appropriate Bus Towing Process (Power or No Power).

Bus Towing Process with No Power Available

CAUTION **DO NOT** flat tow the bus (drive wheels on the ground) over 1 mile at speeds above 20 MPH unless you have removed the half shaft from the rear axle or unless you have disconnected and removed the drive shaft. **Severe damage to the transmission will occur if this caution is not heeded.**

1. To gain temporary ride height clearance when no power is available, see the *Bus Ride Height Preparation* section of this chapter.
2. Release the parking brake by pressing firmly on the brake pedal and then pressing down on the yellow Parking Brake button located on the driver's armrest console.
3. Confirm the tow vehicle wiring harness is connected to the 7-pin wiring connector at the front of the bus to allow operation of the bus brake lights and turn signals.

NOTE: For the tow vehicle wiring harness to be operational, the main power switch should be in the ON position OR the interior light switch must be in one of the ON positions (dim or bright) for the 12/24 volt contactors to be powered, allowing the exterior lights to be operational.

4. Close the front door using the rocker switch in the streetside front access panel. If the bus does not have air to close and secure the doors, the doors will need to be manually closed and secured.
5. Tow or winch the bus normally.

CAUTION **If the bus does not have electrical power, it should be towed no faster than 10 mph, and for no longer than 10 miles. Failure to follow this rule could** result in severe damage to the drive system.

Bus Towing Process with Power Available

CAUTION **DO NOT** flat tow the bus (drive wheels on the ground) over 1 mile at speeds above 20 MPH unless you have removed the half shaft from the rear axle or unless you have disconnected and removed the drive shaft. **Severe damage to the transmission will occur if this caution is not heeded.**

2. Determine if the bus can be towed from the front and reference the *Front Towing Attachment Points* section. If it cannot be towed from the front, reference the *Rear Towing Attachment Points* section in order to position the bus for front towing.
3. Turn the bus ON to enable the air compressor. The bus is turned ON by rotating the knob located on the lower left side of the dash one click to the right. The dash screen will light up to indicate the bus is on. This can take several seconds.

Figure 21-21. Turn ON Master Switch

4. Ensure that the bus is in Neutral, if not press down on the brake pedal and then press the "N" button located on the driver's armrest console. The "N" light will flash.

Note: The power steering pump will continue to operate as long as the vehicle is moving. Should the power steering pump stop, repeat Step 4 above.

CAUTION **Failure to place the bus into Neutral position, prior to winching or towing will result in damage.**

5. Release the parking brake by pressing firmly on the brake pedal and then pressing down on the yellow Parking Brake button located on the driver's armrest console.
6. To gain temporary ride height clearance, see the *Bus Ride Height Preparation* section of this chapter.
7. Confirm the tow vehicle wiring harness is connected to the 7-pin wiring connector at the front of the bus to allow operation of the bus brake lights and turn signals.

NOTE: For the tow vehicle wiring harness to be operational, the main power switch should be in the ON position OR the interior light switch must be in one of the ON

1. Ensure that the bus has adequate power to operate the air compressor, if not reference *Bus Towing Process with No Power Available*.

BYD K9MD – Electric Bus Towing Guide

Build Your Dreams

Revision Index

Property:

Publication Type: Towing Manual

Issue Date: February 6, 2020

Current Release: February 6, 2020

Revision	Date	Chapter	Section	Page
Original Document	February 6, 2020	All	All	All
Revised version	July 9, 2020	All	All	All

Safety

As a pure electric vehicle, BYD K9MD consists of a 24V low voltage system, a high voltage direct current (DC) system and a high voltage alternating current (AC) system.

High voltage DC and AC may cause severe personal injury or even death, so operation should be done cautiously. Special care must be taken when repairing, maintaining or disassembling related high voltage components, and non-professionals are prohibited from conducting these operations.

High voltage safety precautions

- Do not touch a service switch or sockets with bare hands or conductive objects.
- To avoid personal injury, please never touch the high voltage wire (orange), connectors and high voltage parts by hand.
- Before performing maintenance on high voltage components, turn off the master switch, ensure that intelligent charging is deactivated, wait 10 minutes, and then disconnect the high voltage service switch. Always wear insulated gloves, insulated rubber shoes, and use insulated tools when performing maintenance.

Anti-sweat gloves

Insulated gloves

Safety helmet and protection mask

Insulated shoes

About towing vehicle

- It is recommended that you contact with a professional towing company to assist you in towing your vehicle.
- Please comply with local regulations. If any of the following contents conflicts with your local regulations, the local regulations shall prevail.
- To tow the vehicle, provide an external air source with 100~150 psi (6.9~10.3 bar) air pressure to ensure that the brake and air suspension can operate normally.
- With the vehicle raised, do not stay below the vehicle unless the vehicle is supported or fixed firmly.
- Obtain an approved towing adapter kit if one is not already provided. The towing adapter used for flat towing consists of two brackets (see in page 10). Contact BYD Customer Service for towing adapter ordering information.

Figure 1

Build Your Dreams

1. Before towing

1.1 Before towing Inspection

1. Ensure the steering wheel is centered.
2. Fix or remove all loose or protruding parts of the damaged vehicle.

1. 2 Turn the bus off

1. Before operating the service/ maintenance switch, check the Master switch in the "OFF" position (See Figure 1).
2. Turn the 24V power switch to off (figure 4). Remove the maintenance switch in rear cabin, and wait for 10 minutes before performing the following operations.

2. Disconnect the three-phase cables and low-voltage connectors of motor controllers

1. (Figure 4)Disconnect low voltage connector of6-in-1.

   Release Cam-Lock retainer, then lever the Cam-Lock away from retainer while pulling the connector gently from Motor controller. Do not use excessive force on connector as damage may occur.

2. (Figure 3) Then remove the high voltage three-phase cable.

   Remove the Motor three-phase cable flange bolts (4xM6 hex bolts, spring washers and flat washers) with a 10mm socket. Pull down and out too remove the high voltage

Figure 2Service/ maintenance switch

Left / street side Right/ curb side

Figure 3

Low Voltage plug,Curb (Right) side of the bus

Figure 4

Low voltage power supply ON	Low voltage power supply OFF

contact any ground or frame component. Physical damage as well as static arcing may occur and could result in personal injury or system damage. Rap loose cable ends and secure with zip tie or nonconductive cable/ rope.

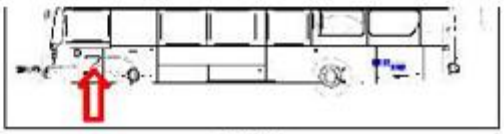


Figure 5

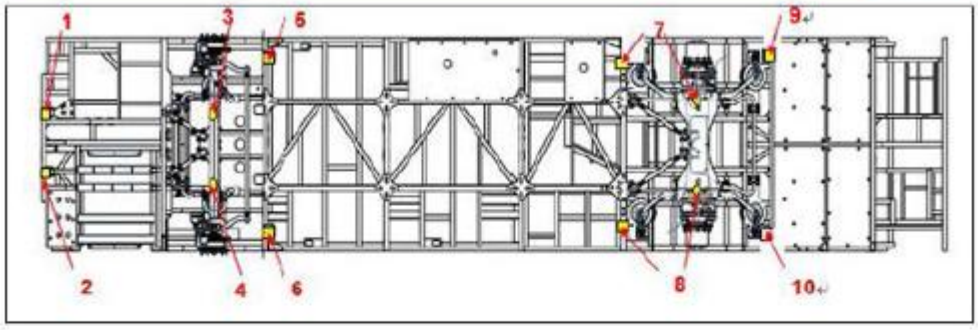


Figure 6 Jacking and Towing points

1	Towing hook connector installation position 1	6	Jacking/stand position 2
2	Towing hook connector installation position	7	Safety stand point 3
3	2 Safety stand point 1	8	Safety stand point 4
4	Safety stand point 2	9	Jacking/stand position 3
5	Jacking/stand position 1	10	Jacking/stand positon 4

3. Vehicle tow hook, air source connector and power connector locations

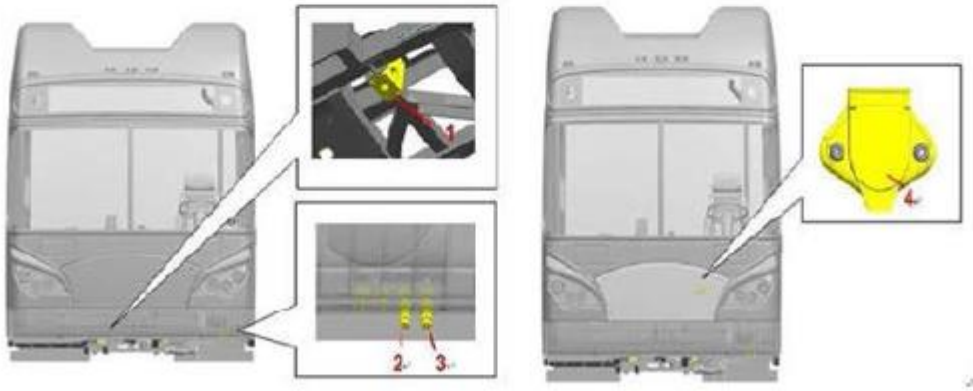


Figure 7 Front of bus

1 Front towing hook
2 Front towing connector
3 Front shop air connector
4 Towing power connector

Figure 8

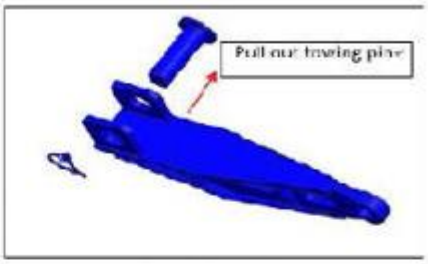


Figure 11

3.1 Towing hook connector

Towing hook consists of 3 parts: towing hook, towing pin and towing lock

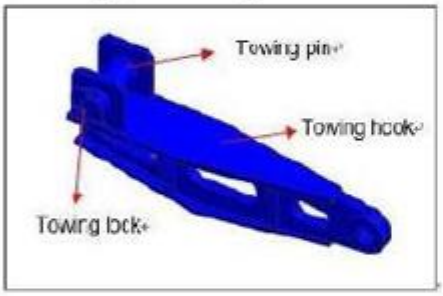


Figure 9

3.2 Use of towing hook

1. Take out towing hook lock
2. Pull out towing hook pin.
3. Install towing hook connector

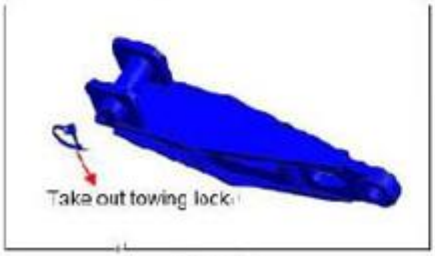


Figure 10

4. Lock the towing hook lock to complete the towing hook transfer. Repeat above steps to install another towing hook

⚠ CAUTION

During vehicle towing, take care to start and brake the vehicle slowly to avoid extreme stress on the towing hook, bar or rope; otherwise, it may break, resulting in serious personal injury or vehicle damage

NOTICE

A towing bar is the most suitable and safest tool for towing. A towing rope may be used only when no towing bar is available.

A tow rope should be elastic to protect the two vehicles. Preferably, a rope made of artificial fiber or similar material should be used for this purpose.

Attach a towing bar or rope to the towing hook only.

If a tow rope is used, move the towing vehicle only when the rope becomes taut.

The driver must drive the towed vehicle and operate the brake.

Only a trained driver is allowed to drive the tow truck. Both drivers should be familiar with the special requirements for towing especially when a tow rope is used

4. Towing vehicle with front wheels off the ground

4.1 Double check before towing

Make sure that the motor controller three-phase (Figure 3) is disconnected.

4.2 Connect the tow hook to the towed part of the front frame of the vehicle.

Figure 12

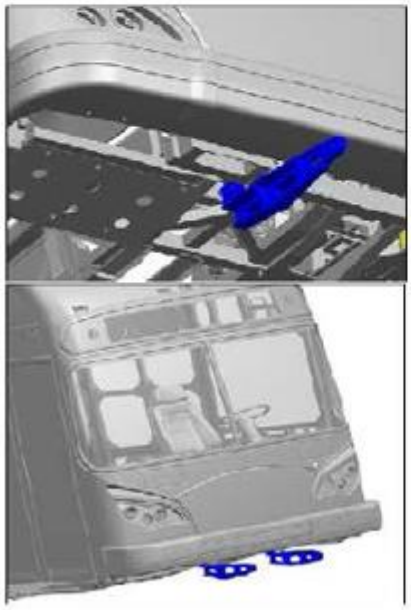


Figure 13

4.3 Connect an external air source to the front shop air connector (Figure 13) to provide the vehicle with air source.

4.4 Connect the Tow truck service/Trailer air to the towing brake port (Figure 13 No.3 Front towing connector), so the vehicle can brake synchronously with the tow truck in front of it.

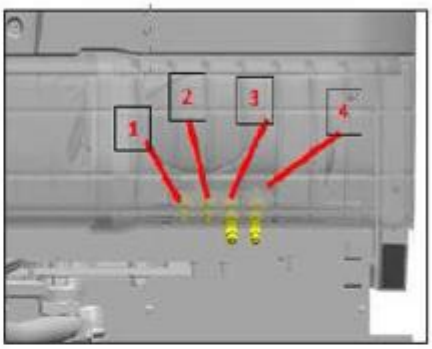


Figure 14

1 Primary test connector
2 Secondary test connector
3 Front towing connector
4 Front shop air connector

4.5 Connect the towing light power connector (Figure 6) of the vehicle to the tow truck to control the working status of the vehicle's external light indicators.

4.6 Turn on the hazard warning lights of both vehicles.

4.7 Have the two vehicles driven by two experienced drivers respectively.

NOTICE

When towing the vehicle with its wheels off the ground, make sure that the end of the wheels on the ground has sufficient ground clearance. Otherwise, the bumper and/or under frame of the towed vehicle will be damaged during towing.

When towing the vehicle with its wheels off the ground, be sure the pins are completely inserted to the specified beam. (Figure 14) otherwise, the vehicle structure or electrical appliances may be damaged.

If it is not possible to tow the vehicle forward with its front wheels off the ground, be sure to put it on a platform truck for transportation.

Figure 15

4.8 Release the parking brake.

4.9 Close all the passenger doors and exterior compartments

4.10 Raise the vehicle about 6-8 inches until the front wheels leave the ground

Figure 16

4.11 Start towing

NOTICE

Even if the three-phase line is removed, the maximum traction speed should not exceed 18.6 mph (30 km/h) under any circumstances.

Because when the bus is being towed, the cooling system does not work. If the speed is too fast, the motor may overheat and be demagnetized, and may cause an accident or damage.

If it is on a busy or heavy-traffic road and the three-phase line cannot be disconnected, the vehicle can be on the road at a traction speed not exceeding 9.3 mph (15 km/h) in a short time (not more than one hour)

If the planetary or reducer is stuck, and the rear wheel cannot be rotated. Only the rear wheel lift towing method can be used.

Towing Procedure for El Dorado Buses

VEHICLE TOWING

FRONT TOWING

Towing Bus from Front Frame

Description

All ElDorado EZR buses comply with "Federal Transit Bus Test" for Front Lift. In order to tow the bus, a "double pick up" procedure will have to be performed.
This procedure consists of lifting the vehicle at the front pick-up jack pads with bottle jack (10T), floor jack, or with the tow truck stinger from under the front frame. The vehicle is to be lifted up to the point that a wooden chock (4" x 4") could be placed under each front tire.

Rear towing is not recommended procedure for the low vehicle due to insufficient ground clearance and the problem of locking the front wheels in a straight position.

Figure 6-Fron Jack Connections

Once the wooden blocks are in place, the proper tow truck fork adapter should be installed at the stinger, then the bus is lifted using the stinger.

Figure 7-Tow Truck Hooking to Hitch

***Figure 8**-Tow Truck Stinger with Fork Adaptors (For illustration purposes only)*

Locate the front shop air tow connection valve at near the tow hitch. Connect the towing vehicle's auxiliary air supply to the tow connection valve of vehicle to be towed.

***Figure 9**- Tow Connection Air Valve*

Ensure that the shift selector is in the Neutral position and both axles stub shafts or driveline are removed.
Lift the front of the vehicle until the front wheels leave the ground, make sure there is enough clearance between the rear bumper and the ground below and commence the tow.

⚠ **CAUTION:** *Never lift tow the vehicle by the front bumper frame.*

☞ **NOTE:** *A 7' stinger boom extension rated for 20,000 lbs. is the minimum requirement when towing from the front with forks.*

☞ **IMPORTANT: *When towing, the driveshaft or both rear axle shafts must be removed, regardless of distance or***

speed traveled to prevent damage and voiding of warranty to the power train components.

☞ **NOTE:** *An auxiliary air supply must be provided to the vehicle being towed to hold off the spring brakes and maintain suspension height. The auxiliary air supply should be a minimum of 100 psi. The auxiliary air connectors are usually located at the front road side of the vehicle behind the front bumper. And at the rear curve side of the vehicle by the Diesel tank unless otherwise specified by customer.*

Safety Precautions

1. Follow all State (provincial in Canada) and local traffic regulations regarding such items as warning signals, night illumination, speed and so forth.
2. A safety restraint system must be used that is independent of the primary lifting and towing attachments.
3. All lose or protruding parts of a damaged vehicle should be secured prior to towing.
4. Do not go under a vehicle which is being lifted by the towing equipment, unless the vehicle is adequately supported by safety stands or appropriate blocking.
5. No towing operation should be attempted for any reason which jeopardizes the safety of the operator, bystanders or other motorists.
6. Do not exceed the recommended maximum speed of 35 mph (55km/h) while towing.

TOWING ALTERNATIVES

Obey all state and local laws applicable to towing. These include regulations on such items as warning signals, night illumination, speed, etc.
If the bus must be towed by a method other than a flatbed truck or trailer, prior to towing:

Use dollies to support the wheels on the ground; or disconnect the drive shaft.

⚠ **WARNING:** *It is recommended by the transmission manufacturer, that the driveline or axles be removed. Due to coasting in neutral for long periods of time can damage the transmission.*

☞ **NOTE:** *Obey all state and local laws applicable to towing. These include regulations on such as warning signals, night illumination, speed etc....*

Use a safety chain that is completely independent of the primary lifting and towing attachments that are being used. The safety chain should be secured to the vehicle being towed as well as the vehicle providing the towing.
Three alternative methods of towing can be utilized:

1. Flatbed low boy trailer
2. Flat tow
3. Under wheel boom lift

1. FLAT BED TOWING

Align towing vehicle to the bus so the vehicle can be winched on in a safe manner. Once the vehicle is on the flat bed secure with chains so as not to allow it to move when transporting.

2. FLAT TOWING

Flat towing is the method of which the vehicle is towed through a set of towing eyes located above the front bumper and all wheels remain on the ground (See figure 10). A tow bar is utilized and inserted through the tow eyes as the method of securing both vehicles.

WARNING: *It is recommended by the transmission manufacturer, that the driveline or axles be removed. Due to coasting in neutral for long periods of time can damage the transmission.*

Figure 10 - *Tow eyes*

Procedure

1. Remove Bike Rack if installed.
2. Attach tow bar to the vehicles tow eyes. Using two people on both sides of the tow bar, raise and insert pin through the tow bar eye and the tow vehicle pintle. Secure pin.
3. Center and back up to vehicle being towed.

6. Finally, attach airline and 7-way cord, which can be found on curbside attached to frame.
7. Use dollies to support the rear wheels on the ground; or disconnect the drive shaft or axle shaft on both sides.

For detachment, follow procedure in reverse order. The procedures illustrated herein are intended for use in developing a safe towing process by the transit agency.

WARNING: *It is recommended by the transmission manufacturer, that the driveline or axles be removed. Due to coasting in neutral for long periods of time can damage the transmission.*

NOTE: *Obey all state and local laws applicable to towing. These include regulations on such as warning signals, night illumination, speed etc.*

3.UNDER WHEEL BOOM LIFT

Depending on the boom lift utilized, it may be necessary to raise the front tires off the ground and block under the front wheels to allow the boom access under the vehicle (Figure 11). When the front supports are under against the front of the wheels the rear support can be attached. The tire straps can be attached to the tow frame and tightened.

***Figure 11**- Boom Lift*

***Figure 12**- Tie Downs*

A. Do not go under a bus which is being lifted by any towing equipment unless the bus is being supported by safety stands.

B. No towing operation which in any way is not safe for the towing vehicle, operator, any bystanders, or other motorists should be attempted.

C. Remove Driveline or Axle Shafts on both sides.

D. When towing do not exceed a maximum speed of 30 miles per hour (50 kilometers per hour).

E. All towing must be accompanied by the proper use of chains and tie-downs to secure the vehicle safely prior to transport on public highways (Figure 12).

MANUAL RELEASE OF SPRING BRAKE CHAMBERS

The rear axle brake chambers have springs which apply the brakes in the absence of air pressure in the chamber. If there is damage to the air system so that it will not hold air to override the spring tension, the chambers must be manually released to allow the bus to be moved.

WARNING: ***Extreme care must be exercised during this procedure. Use this procedure only if the bus air brake system has sustained damage to render it inoperable even when an air supply from the tow truck is applied. Each situation must be carefully assessed to determine whether the position of the bus is stable. Never go under a bus that is not completely stable. If the rear of the bus must be raised to gain access to the spring brake chambers, suitable jack stands must be used. Be certain that wheel chocks are in position to keep the bus from rolling as the brakes are released. Never assume a position that would allow the wheels to roll over you should the chocks fail to hold.***

Manual Release Tool

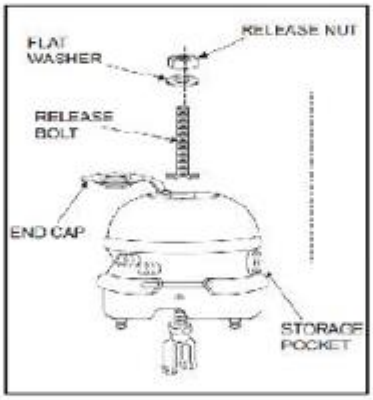


***Figure 13** - Manually Release Brake Cambers*

The chamber assembly is equipped with a manual release tool (Figure 13) for mechanical release of the spring brake. Use of the tool is as follows:

1. Chock the wheels to prevent movement of the vehicle.
2. Remove the plastic end cap from the spring chamber.
3. Using a 15/16-inch wrench, unscrew the release nut and remove the nut, flat washer and release bolt from the storage pocket on the side of each chamber.
4. Insert the release bolt into the end of the chamber.

Make sure that the formed end of the bolt enters the hole inside the chamber piston.

5. With the release bolt bottomed in the piston hole, rotate the bolt ¼ turn clockwise and pull the bolt out to lock the formed end into the piston.

CAUTION: ***If the bolt does not lock into position in less than ½-inch outward movement, repeat steps 4 and 5 until the bolt locks into position.***

6. With the bolt locked into the piston, install the flat washer and the release nut on the end of the bolt. Turn down the nut against the flat washer until finger tight.

7. Using a 15/16-inch hand wrench only, turn the release nut clockwise until the end of the bolt extends four inches above the nut.

WARNING: ***Do not exceed the specified extension length of the bolt. Torque on the release nut should not exceed 50 ft-lb. or damage may occur which could prevent further manual release of the spring brake chamber.***

8. To reactivate the spring brake from its manually released position, reverse the order of steps 1 through 7 above.

NOTE: *When reinstalling release bolt, washer, and nut into the storage pocket, do not exceed 10 ft-lb. torque on the nut against the flat washer.*

SECTION 18-500.45
HOISTING AND TOWING

WARNING

1. **This section includes information regarding electric vehicles. Any special precautions to take before towing can be found under the heading REMOVE BOTH AXLE SHAFTS in this section.**
2. **It is required to be in compliance with all federal, state, provincial, and municipal laws, as well as transit authority regulations regarding vehicle hoisting and towing. Also, any additional safety equipment as specified by regulation of the above must be in place.**
3. **Improper use of towing and hoisting equipment can be dangerous. Incorrect operation can result in bodily injury to the operator, helpers and bystanders. Only authorized and trained personnel who completely understand the operation of such equipment should be permitted to operate towing and hoisting equipment unsupervised.**
4. **For towing operations, the operator must also be aware of the hazards of operating at a location where electric power lines, irregular ground contour, water, ice, mud, or other conditions, as well as fluids or damaged parts of a vehicle can interfere with ordinary safe operation.**
5. **It is important to follow federal, state/provincial, local, and internal safety requirements and procedures regarding personal protective equipment (PPE), such as safety glasses, footwear, and safety clothing, while working on any Nova Bus vehicle.**
6. **The towing vehicle must be suitable and properly equipped to support a load in a raised position while in tow. It must be equipped with safety chains and fitted with spacer bars that are designed to minimize any damage that may be caused to the towed vehicle.**
7. **When a bus has been fully lifted by a tow truck, the bus must be adequately secured to the tow truck before it is moved.**
8. **ALWAYS use safety chains when towing.**
9. **Do not use towing and hoisting equipment except on a solid, level surface with stabilizers properly extended (if applicable) and truck brakes locked.**
10. **Operate all controls slowly and smoothly to avoid damage to the towing unit or injury to personnel.**
11. **Do not operate, stand or lie beneath a boom, spacer bar or a raised bus during a towing operation unless adequate safety blocks or supports are in place and the bus' parking brake is applied.**
12. **All appropriately authorized signs, signals and lights shall be activated and tow truck operators shall wear reflective traffic safety vests while performing recovery operations or when circumstances are such that the vehicle being transported creates a potentially hazardous condition for the safe movement or passage of other motorists.**
13. **Do not tow the vehicle at high speeds.**
14. **UNDER NO CIRCUMSTANCES should buses be towed without first having either the drive shaft or both the axle shafts disconnected. This precaution is essential in order to avoid damaging the transmission and other major drive train components. Failure to remove the axle shafts might void the warranty. See the heading REMOVE BOTH AXLE SHAFTS in this document.**
15. **When hoisting/jacking the vehicle in the garage for repairs, or servicing, ALWAYS have safety stands behind the rear axle, (on both sides of the bus), to prevent the vehicle from tipping over. See the REAR AXLE section in this document.**

GENERAL DESCRIPTION

There are several hoisting and towing points on the vehicle. Use ONLY these points for towing or hoisting.

Tow eyes, for front towing, are generally stored in the front compartment near the operator. They should be screwed into the holes at the front of the vehicle. See Figure 3. They are designed ONLY for towing the vehicle for very short distances while its wheels are on the ground. For example, towing within a transit authority's garage area or yard, or moving a bus on the road into a more convenient and safe position in order to hoist the bus for proper towing. ***Tow eyes must not be used as hoisting points,*** as this could cause damage to the vehicle.

See Figure 4 for the location of the towing and hoisting points.

Figure 3 - Tow Eyes

TOWING THE VEHICLE

WARNING

It is recommended to lift the vehicle from the front in order to move an immobile bus. Nova Bus does not recommend, at any time, rear-end lifting of any of its vehicles. Any direct or indirect damage resulting from rear-end lifting is not guaranteed by the manufacturer.

Pulling an immobile vehicle from the rear, to remove from a roadside ditch, for example, is acceptable, as long as only the proper locations on the vehicle, as identified in Figure 4 (item 1), are used.

CAUTION

While the vehicle is being towed, its pneumatic system must be supplied with a 100 psi (690 kPa) minimum pressure to maintain the brakes in the released position.

CAUTION

Lift at the minimal height required for the bus to trail the towing vehicle.

PREPARING FOR TOWING

NOTE

Set the HAZARD FLASHER SWITCH (located on the operator's control panel) to the ON position. This is not necessary if a towing light bar is installed.

DISABLE THE INTERLOCKS

Disable the brake interlock BEFORE attempting to tow the vehicle.

1. If the front and rear brakes are blocked, turn off the MASTER CONTROL SWITCH or the DOOR MASTER SWITCH to override the interlocks.
2. If the brakes are still blocked, perform one of the following procedures to supply air to the system:
   a. Release the parking brake. See section 08: BRAKING SYSTEM for the procedure.
   b. Using the tow connector, fill the system with air.
3. If the brakes are still blocked, it will be necessary to CAGE the brake booster. CAGING involves compressing the spring inside the brake chamber using a caging tool, otherwise known as a T-Bolt. If the bus is an older model where the rear axle has drum brakes, the T-bolt must be screwed IN. On newer models with disk brakes, the T-bolt is located inside the brake booster and must be screwed OUT.

NOTE

Caging is usually required when there is a major problem in the primary circuit.

For the rear axle, verify that the parking brake is released.

NOTE

If it is impossible to restore pressure to the pneumatic system, the vehicle MUST be towed on a flatbed trailer. In this case, release the parking brake and disconnect the brake chambers.

TRANSMISSION DUSTPANS

Depending on the operational requirements, the transmission dustpan and brackets shall be removed to facilitate towing activities.

CAUTION

Under certain climate conditions, it is possible for ice or debris to accumulate above the dustpan and around the AC Traction Motor (ACTM). Use caution when opening the dustpans as any accumulated ice or debris may release from the vehicle without warning.

CAUTION

Wear the proper personal protective equipment (PPE) when removing the dustpans from the vehicle. In addition to the PPE standards mentioned in the Warnings of this section, it is also recommended to wear a hardhat when opening the dustpans from the vehicle.

REMOVE THE SHAFTS FROM THE AXLE

There are two methods of removing drive from the axle: by disconnecting the drive shaft or by disconnecting the two axle shafts.

WARNING

Under NO circumstances should any vehicle be towed without first having either the drive shaft or both axle shafts disconnected. This precaution is essential to avoiding damage to the transmission and other major drive train components.

The ONLY exception to this rule would be in the case of towing the vehicle out of a dangerous location where safety is of concern. To do so, follow the steps below:

- **Ensure to set the drive selector to neutral.**
- **BAE vehicles - Ensure that the ignition is switched to ON [to energize the modular traction system (MTS) coolant pump, if possible].**
- **Do not exceed 3 mph (5 km/h).**
- **Do not travel more than 328 yards (300 meters)**

DISCONNECT THE DRIVE SHAFT

The following procedure must be applied BEFORE attempting to tow the vehicle.

1. Locate the drive shaft hatch between the rear wheelhousings in the interior of the vehicle. Remove the hatch cover to gain access to the drive shaft. See Figure 5.
2. Remove the bolts securing the straps to the drive axle input flange. Use a 16 in. ratchet [125 lb-ft (170N•m) and more], then switch to a 10 in. ratchet or other tool if more clearance is required. See Figure 6.
3. Remove the bolts from the axle.

Figure 5 - Remove Shaft Hatch Cover

Figure 6 - Remove Bolts

4. Locate and remove the bolt that secures the drive shaft to the carrier.
5. Swing the carrier bracket down in a counter-clockwise direction. See Figure 7.
6. Collapse the drive shaft as much as necessary to place the metal tab of the carrier holder through the space between the drive shaft and the u-joint. See Figure 8.
7. Turn the carrier bracket clockwise to its original position and replace the bolt accordingly.

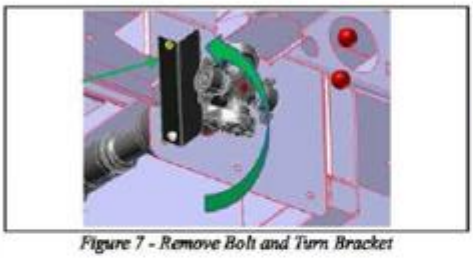


Figure 7 - Remove Bolt and Turn Bracket

REMOVE BOTH AXLE SHAFTS (REAR WHEELS ONLY)

The following procedure must be applied to both axle shafts BEFORE attempting to tow the vehicle.

1. Remove all of the bolts holding the hub cover to the axle and remove the cover. See Figure 9. On older models with oil-filled axles, use a container to recover the oil.
2. Remove the axle shaft and place it inside the bus. See Figure 10 and Figure 11.
3. Replace the cover with a temporary replacement cover. See the heading INSTALL THE TEMPORARY HUB COVER in this section for instructions.
4. Return the recovered oil to the hub to protect the bearings.

WARNING

When assembling the axle shaft, do not use excessive force. If force is used, the axle might become irreparably damaged. It is necessary to align the keyways and to manoeuver the axle shaft so that it enters the hub carrier smoothly.

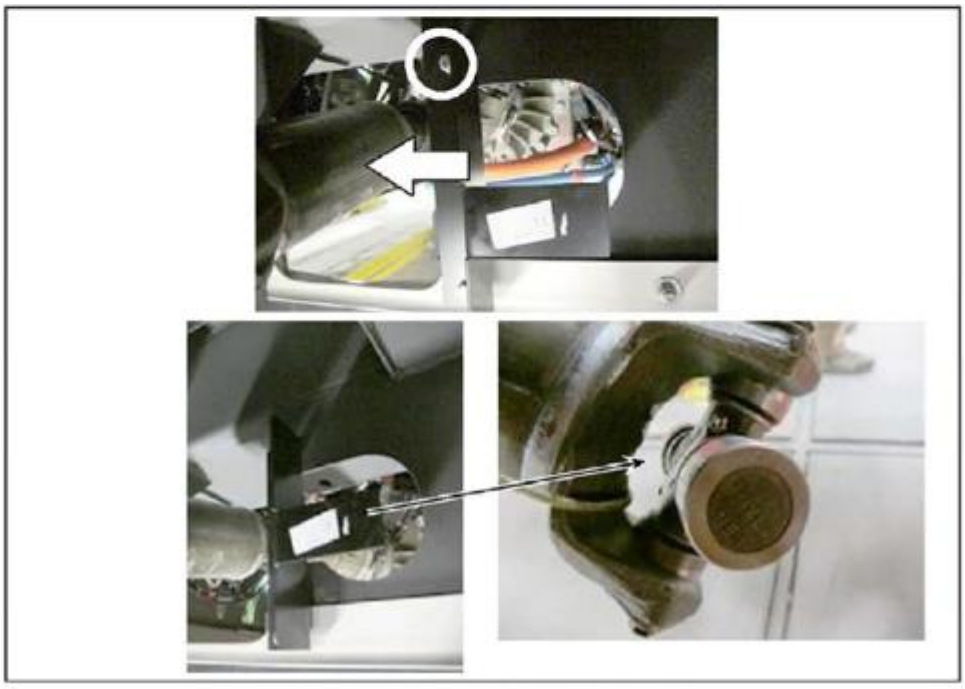


Figure 8 - Slide Drive Shaft and Rebolt Carrier Bracket

5. Repeat this procedure for the other axle shaft assembly.

NOTE

See the manual from the rear axle manufacturer for the procedure. Be sure to respect the following warnings, as well as those from the manufacturer.

CAUTION

The axle shaft openings should be covered to prevent lubricant loss and rear axle contamination.

When dismantling both axle shafts from the ZF axle before towing, the driveline is disconnected. Plug both hubs with an oil-tight, temporary cover; you will need a cover, an O-ring, and two Hex screws [similar to a bolted axle shaft connection (M18 × 1.5 × 45)]. Refer to the ZF manual.

INSTALL THE TEMPORARY HUB COVER

With the axle shaft removed:

1. Grease the O-ring and insert it into the annular groove on the cover.
2. Insert the cover onto the hub.
3. Fix the cover to the hub with two hub bolts. Tighten to the torque shown in Figure 12.

CAUTION

Lubricate wheel bearings if the towing distance exceeds 30 miles (50 km).

Figure 10 - Hub With Cover Removed (Typical)

Figure 11 - Axle Shaft Removed

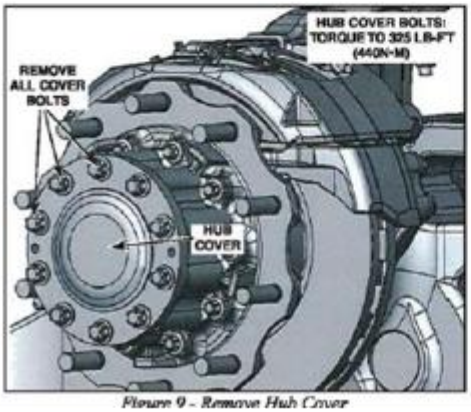


Figure 9 - Remove Hub Cover

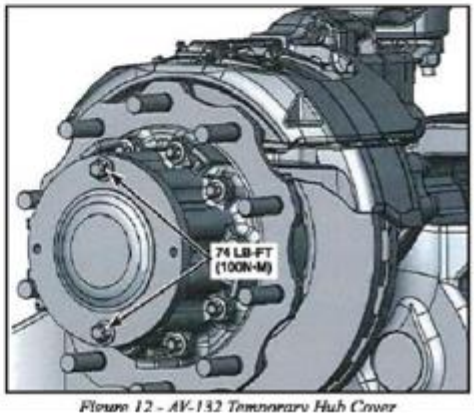


Figure 12 - AV-132 Temporary Hub Cover

TOWING HOOKUP

1. Remove the dustpan, if so equipped.
2. Ensure that the transmission shift selector is in NEUTRAL.
3. Install the two tow eyes, stored in the front dashboard area, and tow eye connectors in the front of the vehicle. See Figure 13.
4. Place wooden blocks on the ground on both sides of the bus in front of the front wheels. See Figure 14.

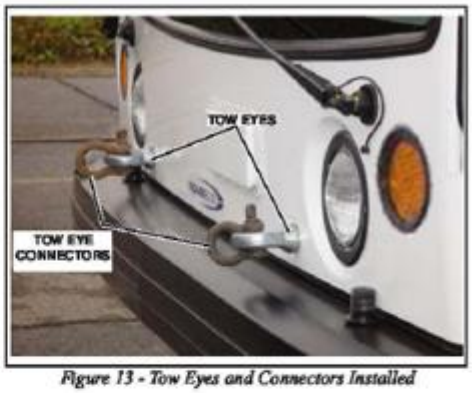


Figure 13 - Tow Eyes and Connectors Installed

Figure 14 - Wooden Blocks Ahead of Front Wheels

5. Using the tow eyes, pull the bus on top of the wood blocks to raise the front of the bus. See Figure 15.

Figure 15 - Bus Pulled up on Wood Blocks

6. Lower the towing beam on the tow truck and install towing forks at each end of the towing beam. See Figure 16. These towing forks are specially manufactured and certified and are available from Prévost Parts.
7. Back up the tow truck close to the front of the vehicle.

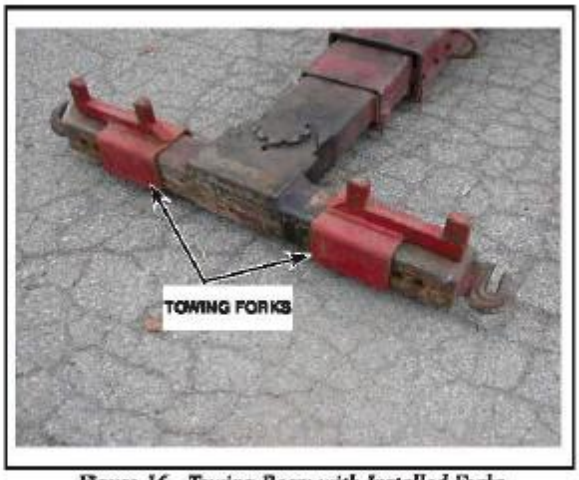


Figure 16 - Towing Beam with Installed Forks

8. Slide the towing beam under the front of the vehicle. Position the towing forks at the designated towing points under the vehicle structure. See Figure 17.

Figure 17 - Towing Forks and Towing Points

9. Raise the towing beam and ensure that the towing forks fit inside the towing points in the chassis at the front of the vehicle.
10. Raise the vehicle for towing. See Figure 18. For towing purposes, verify that the maximum ground clearance of the tires at the front does not exceed the value shown in Figure 19.

CAUTION

It is the towing driver's responsibility to check for overall height clearance when entering an enclosed building at a depot.

11. The minimal distance between the tow truck crane and the bus' front bumper is indicated in Figure 18.

CAUTION

When lifting the vehicle for towing, lift at the minimal height required for the bus to trail the towing vehicle. Ensure that the front wheels are clear of the road surface and do not touch the ground during towing.

Figure 18 - Vehicle Raised for Towing

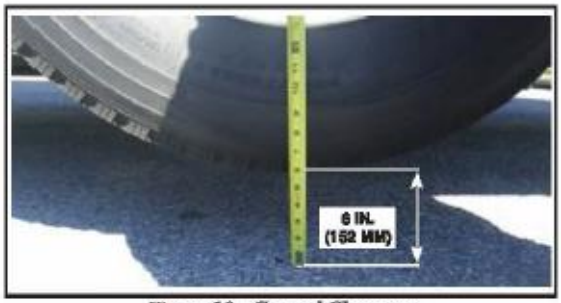


Figure 19 - Ground Clearance

12. Attach a security chain around the chassis and the tow bar on both the left and right-hand sides of the towing beam. Ensure that the chain is sufficiently tight. See Figure 20.

CAUTION

When working underneath the vehicle, place safety stands or wood supports under the chassis to ensure that the vehicle does not slip and cause personal injury.

13. Once the chain is tight, remove any safety supports and pull the vehicle toward the tow truck into its towing position.
14. Verify the location of the compressed air connector, in order to supply air to the bus while being towed. There are various locations for these air connectors. Depending on the model of bus, the locations are as follows, and illustrated in Figure 21:
    - At the front of the vehicle near the towing points.
    - At the front of the vehicle underneath the dashboard.
    - On the streetside of the vehicle, accessible via the windshield washer door.
    - On the curbside of the vehicle, accessible through the rear engine access door, to the right of the engine and typically near the coolant fill valve.

    Connect an air hose between the connector and the tow truck's compressed-air supply. See Figure 21.
15. Open the valve at the tow connector on the bus. See Figure 21.

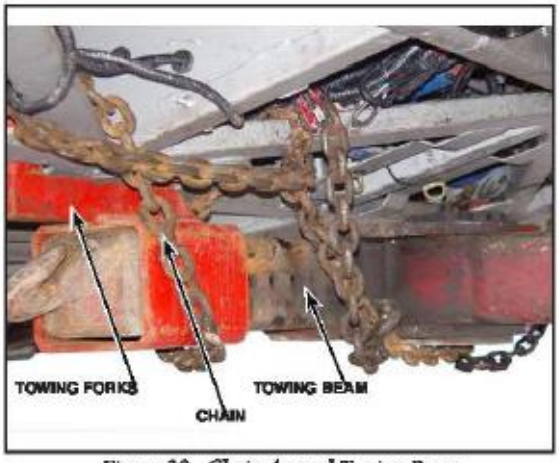


Figure 20 - Chain Around Towing Beam

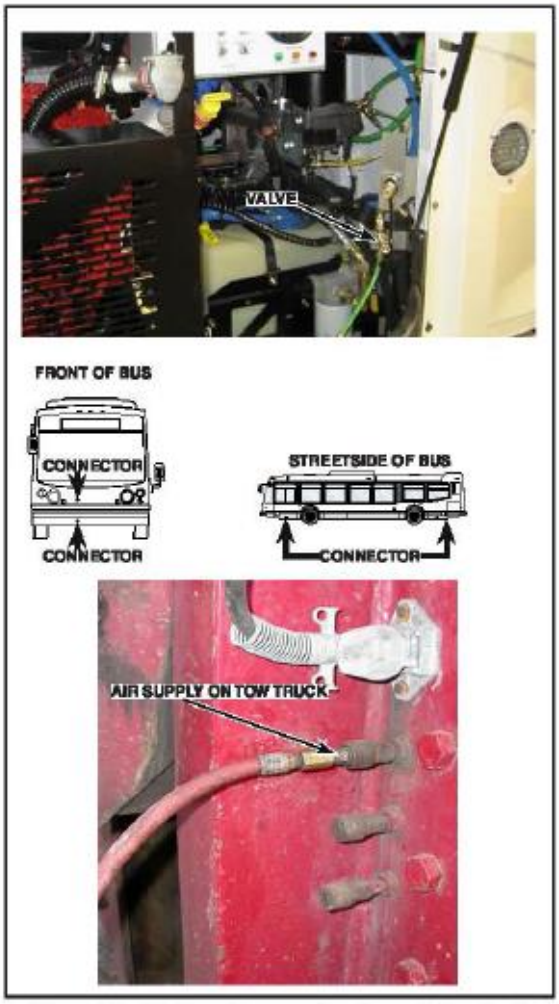


Figure 21 - Air Hose Connected on Bus and Tow Truck

TOWING LIGHTS

1. Affix safety towing lights (similar to that shown in Figure 22) to the rear of the bus as required by regulation.
2. Attach a wiring cable to the towing lights and pass it through the interior of the bus. Pass the cable through the rear engine door, the interior engine access panels and exit via the operator's window. For those buses so equipped, an optional front towing electrical plug (near either headlight) may be used, in order to operate the vehicle's lights during towing. See Figure 23.

CAUTION SIGNS

1. Affix a CAUTION WIDE TURNS sign and a BUS-IN-TOW sign to the rear of the vehicle to warn other vehicles and road users. See Figure 22.

Figure 22 - Safety Towing Lights and Signs Attached to Rear of Vehicle

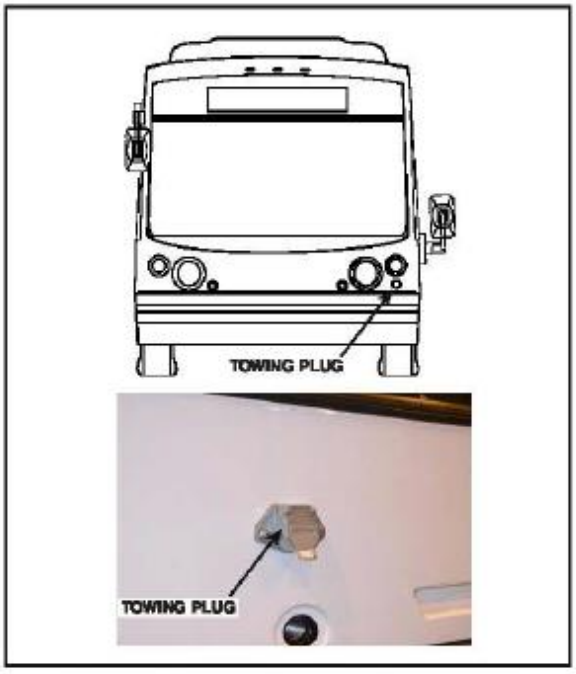


Figure 23 - Locations of Towing Plug (Optional)

HOISTING THE VEHICLE IN AN EMERGENCY

This procedure applies to all vehicles being hoisted outside a garage environment. It is vitally important to follow each step of this procedure, as well as all warnings, etc. Doing so will ensure compliance with industry standards and create a secure and efficient process. Omitting any step, or neglecting to follow security requirements, may result in serious bodily injury, as well as damage to the vehicle.

WARNING

- **Raise the vehicle only when it is stationary on a flat, level, solid surface.**
- **Place the transmission in the NEUTRAL position and apply the parking brake BEFORE starting the hoisting procedure.**
- **Ensure that the engine is OFF BEFORE starting the hoisting procedure.**
- **Block the front and the back of the wheels opposite to those that are being raised, in order to prevent movement of the vehicle.**
- **Use only those jacks or supports that comply with the minimum requirements. See the heading TECHNICAL SPECIFICATIONS in this section.**

CAUTION

If the jack used to raise the vehicle, either by the front or rear, is positioned at the forward lower radius rod connector clamp (see the heading IDENTIFICATION OF HOISTING POINTS), it is essential to place wood blocks (or equivalent) at one of the places illustrated in Figure 4, depending on the chosen jacking point. Also, see Figure 32.

These wood blocks are used to support the vehicle on the floor, and must be installed on a flat surface and in line with the vehicle side walls.

Only use blocks that have a minimum dimension of 4 in. (10 cm) square and 10 in. (25 cm) long.

HOISTING THE VEHICLE FOR MAINTENANCE

Use only the hoisting points indicated in Figure 4.

NOTE

For purposes of this section:

***Jacking* is a position on the vehicle where a floor jack may be used to lift the vehicle.**

***Hoisting* is the position on the vehicle where the hydraulic hoist adapters are placed to lift a bus using a hydraulic hoist.**

***Safety* is a position on a vehicle where safety stands may be placed to maintain the vehicle height while lowering the hydraulic hoist post. This allows easier access to the repair area.**

See Figure 4.

WARNING

Refer to the *WARNING* on page 1. Follow your internal safety procedures; use appropriate safety equipment for your protection.

STABILIZING THE VEHICLE PRIOR TO HOISTING

Nova Bus recommends the following procedure to drain air from the pneumatic system:

1. Open the drain valve on the accessory tank and empty the tank. The primary, secondary, emergency and supply tanks are protected by sequential valves, which maintain air pressure at 70 psi (483 kPa).
2. Remove the link arms of the rear leveling system on each side of the vehicle. See Figure 24 and refer to section 08-401: KNEELING AND LEVELING in this manual.

At this point, the vehicle is resting on four suspension bump stops, and is stable for hoisting.

3. (a) If power is available to the vehicle, fully kneel the front of the vehicle.
   (b) If power is unavailable to the vehicle, then to gain access to the front leveling valve:
      i. Raise the vehicle.
      ii. Remove the front dust pan that covers the front leveling valve.
      iii. Empty the front air springs by removing the pin from the front leveling system. See Figure 25.
      iv. Allow the front of the vehicle to lower as the front air springs empty.

At this point, the vehicle is resting on six suspension bump stops, and is stable for hoisting.

Once the vehicle is hoisted, if suspension work is planned, install A-frame vehicle safety stands.

Figure 24 - Remove Adjustment Arms on Both Sides of Vehicle

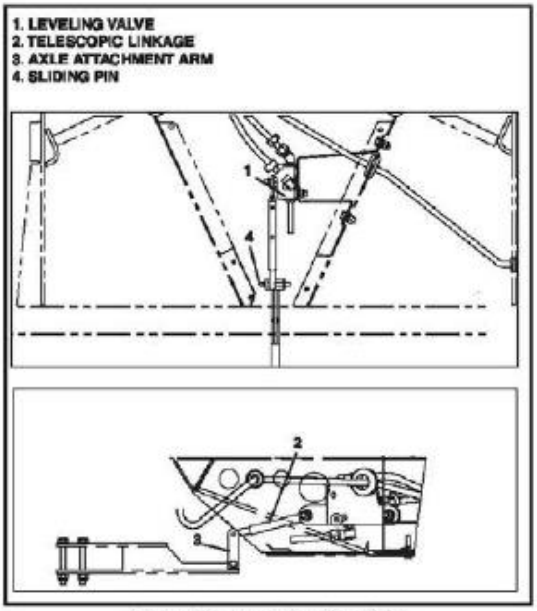


Figure 25 - Front Leveling Valve

Figure 26 - Suspension Block in Place

Figure 27 - Suspension Block Fits on Air Suspension Plate

Figure 28 - Suspension Block Locked onto Suspension Plate

Figure 29 - Eyelet for Sling

Figure 30 - Axle Beam For Sling

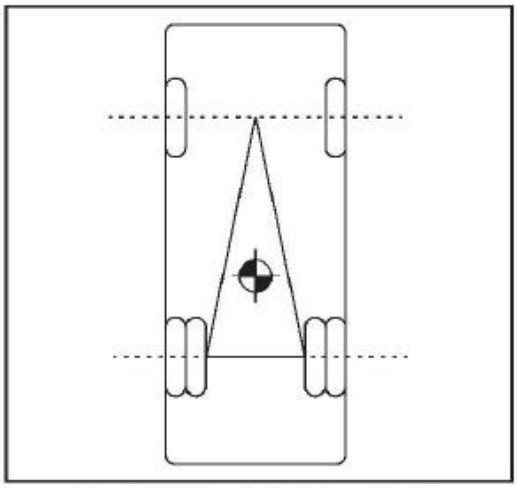


Figure 31 - Schematic for Center of Gravity

STABILIZING THE VEHICLE AFTER HOISTING

Nova Bus recommends the following procedure when the vehicle has full air pressure. To maintain that pressure during maintenance, connect an external air supply to the rear curbside air connector (suitably marked) or to the front tow connector, if necessary.

1. Raise the vehicle.
2. In stabilizing the vehicle, if additional work space is required for suspension work at ride-height, then it is suggested that mechanical suspension blocks be installed. These mechanical suspension blocks should have a clearly-visible, yellow warning banner attached to them to ensure that the blocks are removed prior to returning the bus to service. See Figure 26, Figure 27, and Figure 28.
3. If necessary, a sling may be used over the front suspension components, see Figure 29 and Figure 30, for extra safety at the front end of the vehicle.

Once the vehicle is hoisted, if suspension work is planned, install A-frame vehicle safety stands.

USING MECHANICAL SUSPENSION BLOCKS

Mechanical suspension blocks permit a secure environment for mechanics, working under a bus, by eliminating any risk of instability when a bus is hoisted, whenever the suspension air springs deflate or the bus becomes unstable during component removal.

Their use applies to all Nova Bus LFS 40-foot vehicles, model years from 1996 to the present.

All other safety procedures and personal protection must be followed and applied.

Mechanical suspension blocks are generally maintenance free, but a visual inspection by the user is required to ensure that there is no deformation and that they function properly. Clean and lubricate these blocks as required.

INSTALLING THE SAFETY MECHANICAL SUSPENSION BLOCKS ON THE LFS SUSPENSION

1. Install the safety mechanical suspension block under the vehicle
2. Position the vehicle over the hoist.
3. Raise the bus following the hoisting procedure.
4. Install the safety mechanical suspension block on the air spring suspension's plate at the prescribed location. Insert the square stopper on the air spring suspension's plate in the square hole of the suspension block to center it in place. See Figure 27.
5. Manually adjust the safety mechanical suspension block, in order to make contact with the structure of the bus.

NOTE

The yellow ribbon is a visual reference indicating the presence of the suspension safety device. This notifies the worker that the safety mechanical suspension blocks are still in place and need to be removed prior to lowering the vehicle.

REMOVING THE SAFETY MECHANICAL SUSPENSION BLOCK

1. Manually unscrew, or use a key, to release the safety mechanical suspension block. Unscrew until the block can easily be removed.
2. Remove the safety mechanical suspension block and store in an appropriate location.
3. Lower the vehicle following the hoisting procedure.

WARNING

Do not use a hammer or other tool to strike the safety mechanical suspension block in order to release it from the vehicle. It is recommended to plug an external air supply source to fill the suspension with air. This raises the vehicle in order to easily release the safety mechanical suspension block.

FRONT AXLE

See Figure 33 to identify the main components of the front axle.

WARNING

Never work under a vehicle supported by one or more jacks, even if supports are in place.

IDENTIFICATION OF HOISTING POINTS

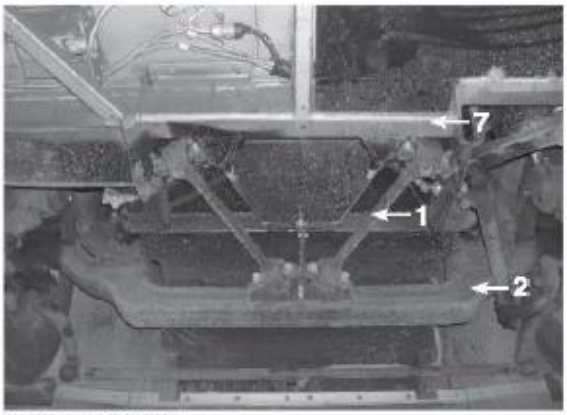
See Figure 45.

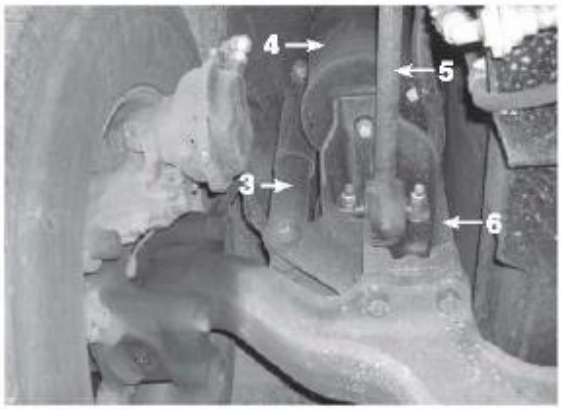
The designated vehicle hoisting points for the proper placement of jacks are situated according to Figure 4.

WARNING

If the vehicle is too low to use this hoisting point, raise the vehicle from the front (see Figure 35 and Figure 36 for the appropriate hoisting points) and place a jack stand under one of the jacking points. See the heading IDENTIFICATION OF FRONT AXLE SUPPORT POINTS in this section. Then, use one or more jacks under the forward lower radius rod connector clamps.

Figure 32 - Positioning of Wood Blocks





1. LOWER RADIUS ROD
2. FRONT AXLE
3. SHOCK ABSORBER
4. AIR SPRING
5. UPPER RADIUS ROD
6. SUSPENSION MOUNT
7. TUBE

Figure 33 - Main Front Axle Components

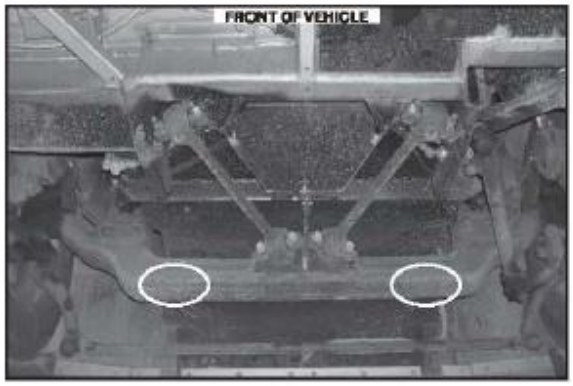


Figure 34 - Front Axle Jack Stand Points

Figure 32 - Positioning of Wood Blocks

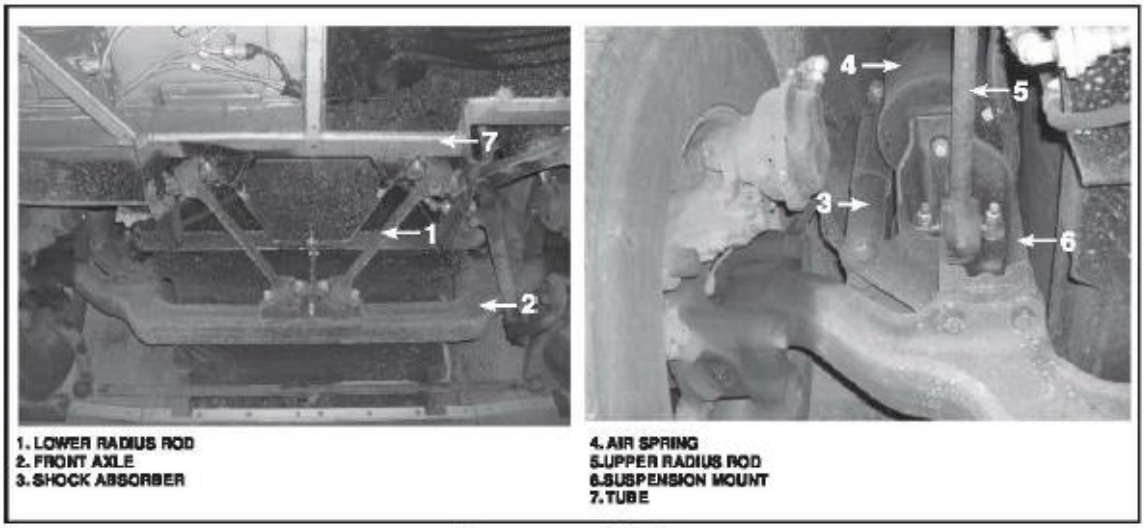


Figure 33 - Main Front Axle Components

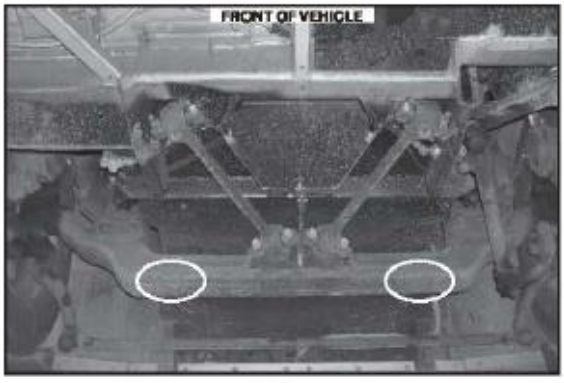


Figure 34 - Front Axle Jack Stand Points

Figure 32 - Positioning of Wood Blocks

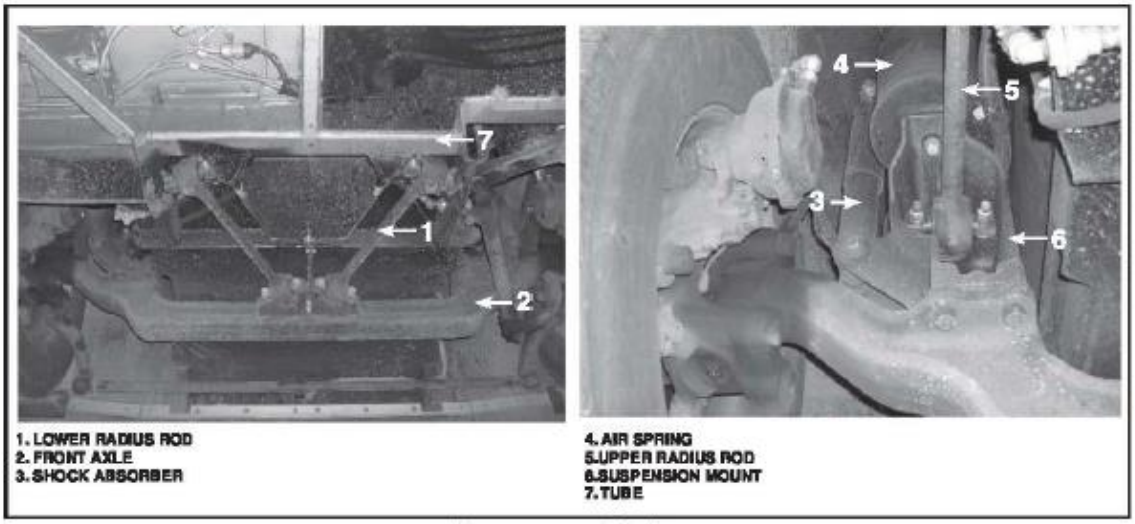


Figure 33 - Main Front Axle Components

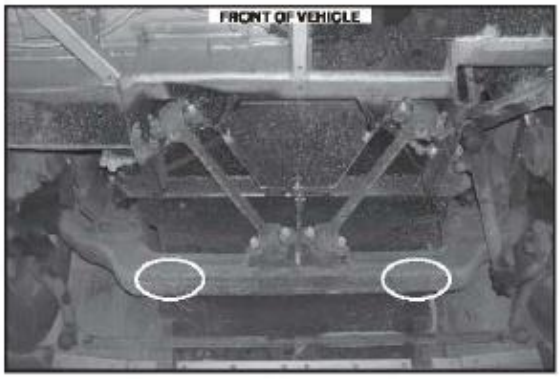


Figure 34 - Front Axle Jack Stand Points

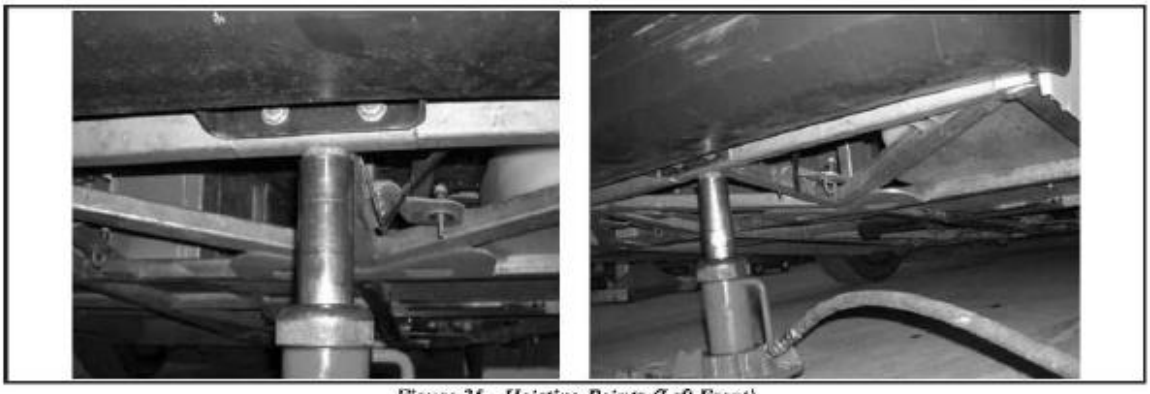


Figure 35 - Hoisting Points (Left Front)

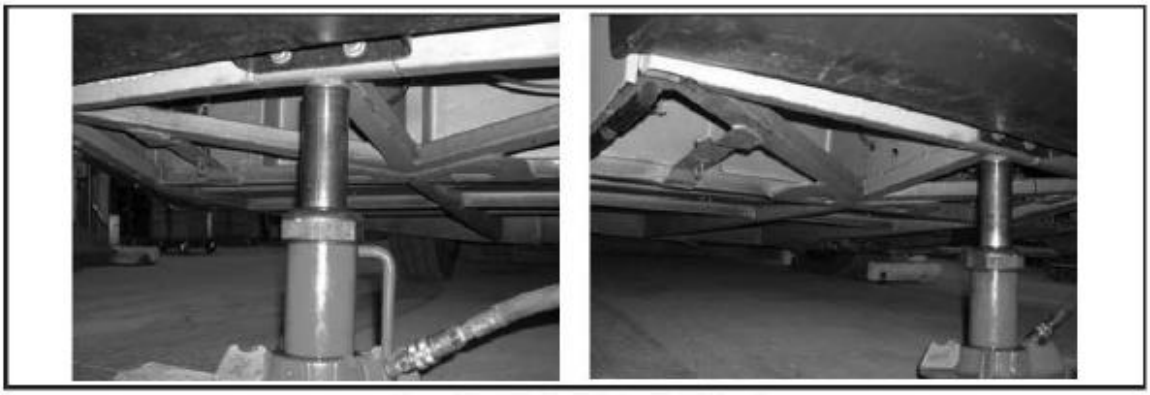


Figure 36 - Hoisting Points (Right Front)

Figure 37 - Positioning of Front Jack Stands (Left Side)

IDENTIFICATION OF FRONT AXLE SUPPORT POINTS

The designated support points for the proper placement of jack stands are located under each jacking pad. See Figure 4 and Figure 37.

If it is impossible to place a jack stand under a jacking pad, due to the presence of a jacking device, the jack stand can be placed under the front axle, as indicated in Figure 34.

REAR AXLE

See Figure 38 to identify the main components of the rear axle.

WARNING

Never work under a vehicle supported by one or more jacks, even if supports are in place.

WARNING

When removing or servicing a rear axle, ALWAYS have an additional two jack stands, (one on each side of the bus), behind the rear axle, to prevent the vehicle from tipping. See Figure 31.

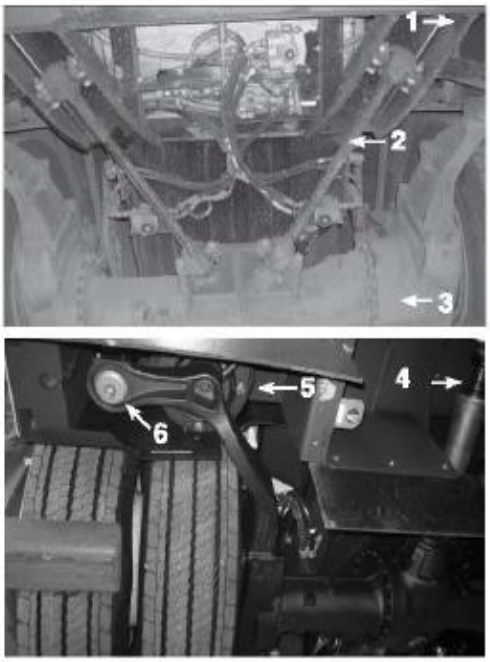
For jacking points in front of the rear axle, remove the sway bar, (if installed), and use those attachment points as jacking pads. See Figure 42.

IDENTIFICATION OF HOISTING POINTS FOR THE REAR AXLE

The designated vehicle hoisting points for the proper placement of jacks are situated at each forward lower radius rod connector clamp. See Figure 4, Figure 33 and Figure 38.

WARNING

If the vehicle is too low to use this hoisting point, raise the vehicle from the rear (see Figure 39 and Figure 40 for the appropriate hoisting points) and place a jack stand under one or several jacking points. See the heading IDENTIFICATION OF REAR AXLE SUPPORT POINTS in this section. Then, use one or more jacks under the forward lower radius rod connector clamps.



1. SUSPENSION SUPPORT
2. LOWER RADIUS ROD
3. REAR AXLE
4. DRIVE SHAFT
5. BELLOWS
6. SHOCK ABSORBER

Figure 38 - Main Rear Axle Components

Figure 39 - Hoisting Points (Left Rear)

Figure 40 - Hoisting Points (Right Rear)

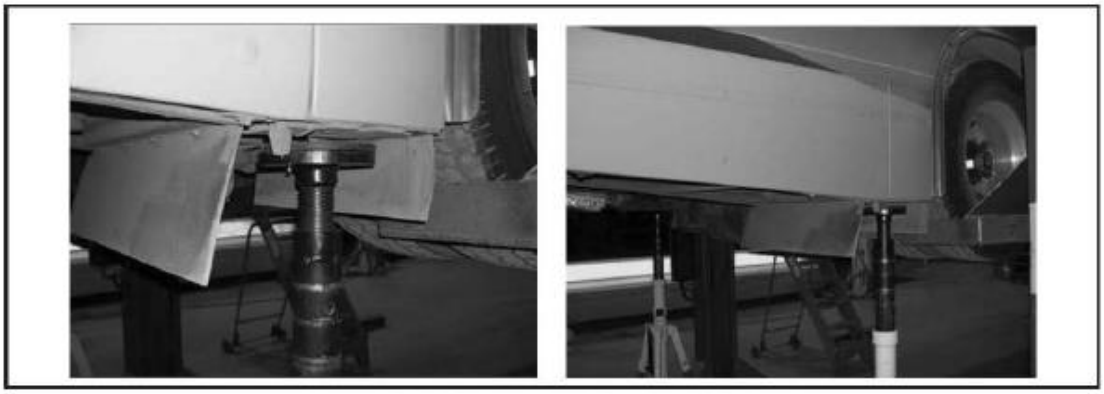


Figure 41 - Positioning of Rear Jack Stands (Right Side)

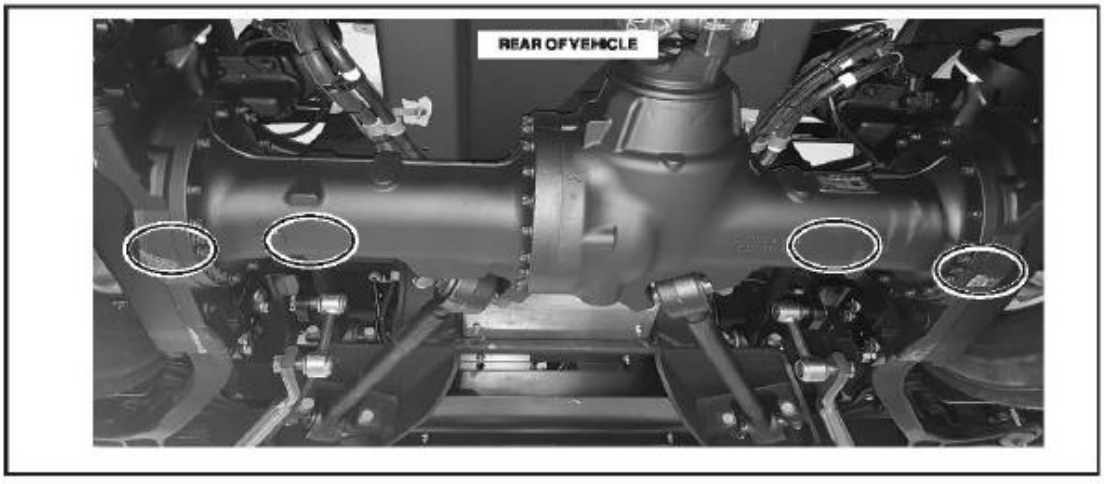


Figure 42 - Rear Axle Jacking Points

IDENTIFICATION OF REAR AXLE SUPPORT POINTS

The designated vehicle hoisting points for the proper placement of supports are located under each support pad. The support pads are located along the underside of the vehicle, behind the rear wheels. Figure 4 and Figure 41.

If it is impossible to place a support under a support pad, due to the presence of a jack, it can be placed under the rear axle, as indicated in Figure 42.

TOW PLUG PROGRAMMING AND VERIFICATION PROCEDURE

This procedure is designed to verify the proper operation of a vehicle's optional tow plug installed on the front shell of the vehicle. See Figure 23. To perform this procedure the following materials are required:

- Laptop computer
- V-BEA communication cable
- Jumper

1. Connect the jumper to power module 39, as shown in Figure 43.

CAUTION

This module must be connected to a 12-volt circuit. See Figure 43.

2. Set the DRIVER'S MASTER CONTROL SWITCH to ON.
3. Establish a connection with the Master ID MCM.
4. Click the V-BEA icon and select the FB_Tow_Plug_MCM.
5. Upload the V-BEA programming for the tow plug.
6. Once the programming is uploaded into the MCM, click on BODY ECU to verify that modules 36 and 39 are set to 1. See Figure 44.
7. Disconnect the B-Bus network connector from module 39 (yellow and green wire).
8. Disconnect the jumper and upload the V-BEA program for the vehicle.

NOTE

Once the V-BEA programming is uploaded into the vehicle, it is no longer possible to access module 39 (tow plug) programming.

Figure 43 - Jumper Connections

ECU address	ECU name	Location	HW part number	HW serial number	PBL part number	SSW part number	ECU type	State
39	39	RF0	20585155	5130053	70350376	70361323	IOA005	1
36	36	Lateral Consol	70361720	8130031	22380000	70378617	CECM	1

Figure 44 - Modules' Setting

2019N13 24 /18-500.45
HOISTING AND TOWING

NOVA BUS

TECHNICAL SPECIFICATIONS

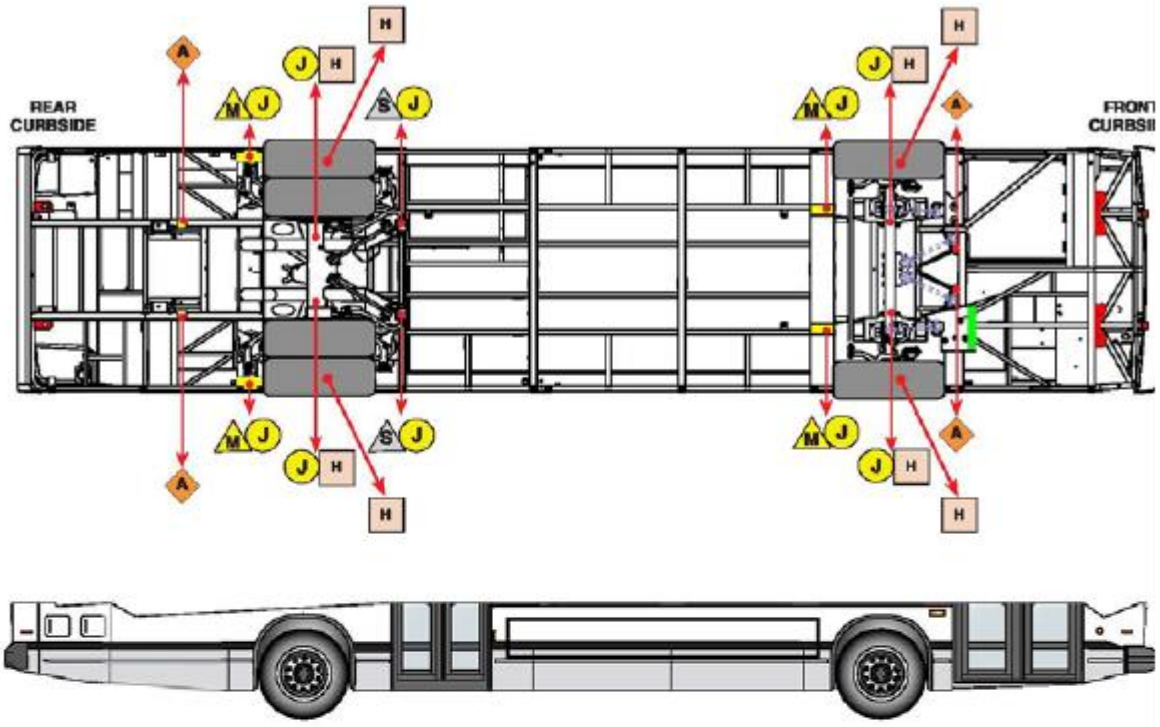
MINIMUM JACK REQUIREMENTS
Weight Capacity ..... 10 tonnes (10,000 kg)
Diameter of jack head ..... 2 in. (51 mm)

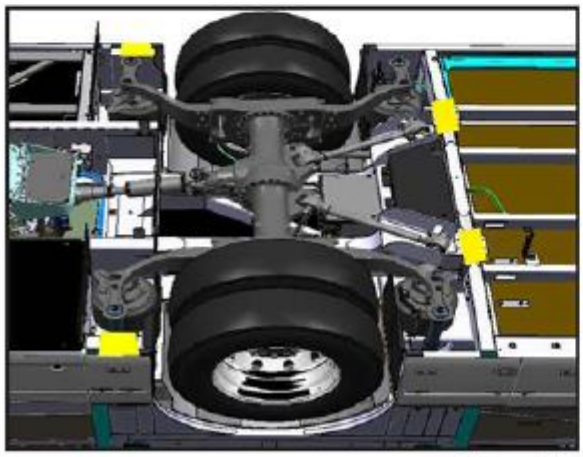
MINIMUM SUPPORT REQUIREMENTS
Weight Capacity ..... 10 tonnes (10,000 kg)
Diameter of support head ..... 6 in. (152 mm)

TRACK
Aluminum Wheels
Front ..... 86.8 in. (2,205 mm)
Rear ..... 77.2 in. (1,960 mm)
Steel Wheels
Front ..... 86.3 in. (2,191 mm)
Rear ..... 76.5 in. (1,942 mm)

CENTER OF GRAVITY
Length
To front of rear axle ..... 78.9 in. (2,003 mm)
To rear of front axle ..... 165.2 in. (4,197 mm)
Width
To the left of bus centerline ..... 3.1 in. (79 mm)
Height
From the ground ..... 46.9 in. (1,191 mm)

WHEELBASE
..... 244 in. (6,200 mm)





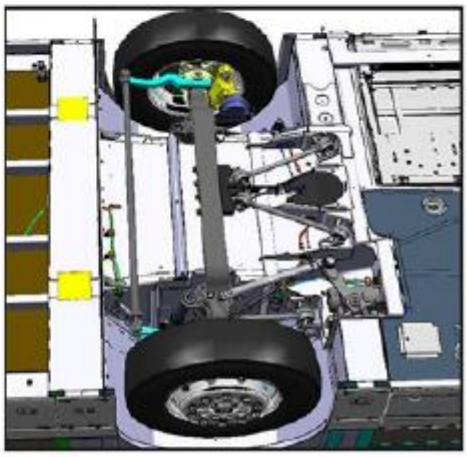


Figure 45 - Hoisting Points

Appendix B
Calculation of Charges

1. Fee structure

a. Contractor is entitled to a Commission fee in accordance with the Section 3 below. The Commission fee shall apply to completed auctions only. A completed auction is one that results in a completed sale. There will be no fee if an auction does not result in a completed sale and there will be no charges to City for any marketing efforts, training, software upgrades or consultation and support provided on-site or remotely.

b. For each Asset to be auctioned by Contractor, City shall elect to have Contractor's Commission be paid by City or the Buyer through a Buyer's Premium. If City elects to pay Contractor's Commission, Contractor will remit to City the total payment received from the Buyer, less Contractor's Commission. If City elects to have a Buyer pay Contractor's Commission, Contractor will remit to City the total payment received from the Buyer, less the Buyer's Premium.

c. Buyer is subject to any applicable State, local and use taxes and the Contractor shall remit taxes on behalf of the Seller.

2. Cost to remove items:

a. Removal of items from a complete sale of Assets shall be the responsibility of the winning Bidder. Contractor may provide Bidders with optional shipping features. However, responsibility and any associated costs for shipping remains with the winning Bidder.

b. City may enable "Will Ship" option in the auction creation process. This will enable shipping partners of Contractor to provide estimated shipping costs to prospective buyers.

3. Commission Fee Schedule

Line	Description	Buyer Paid Commission Fee	Seller-Paid Commission Fee
1	Pickup Truck	15%	15%
2	Transit Bus	15%	15%
3	Street Sweeper	15%	15%
4	Sedan/Coup	15%	15%
5	Dump Truck	15%	15%
6	Mechanics Truck	15%	15%
7	Truck	15%	15%
8	Utility Truck	15%	15%
9	Trailer	15%	15%
10	SUV	15%	15%
11	Cargo Van	15%	15%
12	Tub Grinder	15%	15%
13	Loader Backhoe	15%	15%

14	Forklift	15%	15%
15	Paratransit Bus	15%	15%
16	Vac Truck	15%	15%
17	Towable Wood Chipper	15%	15%
18	Fire Truck	15%	15%
19	Towable Generator	15%	15%
20	Flatbed Truck	15%	15%
21	Bucket Truck	15%	15%
22	Motorcycle	15%	15%
23	Box Truck	15%	15%
24	Tractor	15%	15%
25	Minivan	15%	15%
26	Wheel Loader	15%	15%
27	Misc. Electrical Equipment/Supplies	15%	15%
28	Passenger Van	15%	15%
29	All others	15%	15%

4. Other Fees

Line	Description	Unit of Measure	Enter Unit Cost ($)
1	Towing - Carrier Transport, multiple operating vehicles	Per Vehicle Per Mile	$ 2.00
2	Towing - Towing standard, single, operating & non-operating vehicles	Per Vehicle Per Mile	$ 6.50
3	Towing - Loads on a Trailer, low bed.	Per Vehicle Per Mile	$ 15.00
4	Towing - Loads on a Truck, 20’ – 24’, flatbed and enclosed.	Per Vehicle Per Mile	$ 6.50
5	Towing - Loads on a Trailer, 40’ – 48’, flatbed and enclosed.	Per Vehicle Per Mile	$ 10.00
6	Towing - Standard, single, operating & non-operating 60' articulating buses.	Per Vehicle Per Mile	$ 20.00
7	Towing - Standard, single, operating & non-operating 40' electric trolleys.	Per Vehicle Per Mile	$ 20.00
8	Removal of all standard size CCSF Markings, including logos and decals	Per Vehicle	$ 50.00
9	Removal of all oversized CCSF Markings, including logos and decals, and full wraps	Per Vehicle	$ 1,500.00
10	Title Search & Application for Duplicate Certificate of Ownership, per vehicle.	Per Vehicle	$ 250.00
11	Storage fee for equipment stored beyond two auctions as per Section III.C.(1) of the Scope of Work.	Per Day	$ 100.00