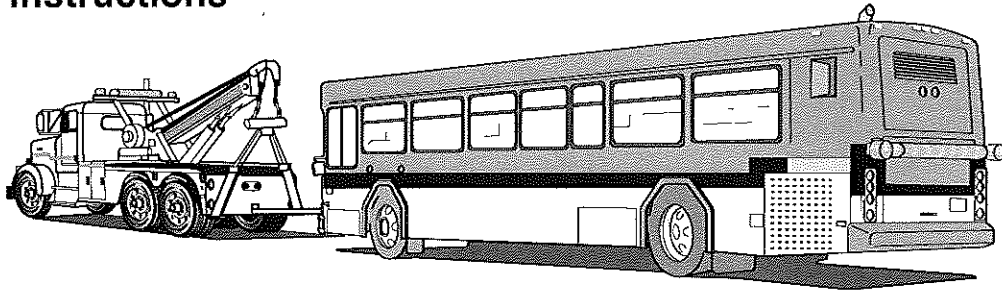


## Towing Instructions



GILLIG recommends flatbedding a disabled bus. If towing is necessary, flat towing from the front with a fixed tow bar is recommended. Towing with the front end raised should be a last resort. GILLIG does not recommend towing from the rear. Review the Warnings and Caution below before towing the bus.



### **WARNING**

- Towing should not be attempted without proper training.
- No towing operation should be attempted which is unsafe in any way for the towing vehicle, operator, bystanders, or other motorists.
- Vehicle towing must be done in compliance with all state and local laws. Safety chains must be used in conjunction with the primary lifting/towing equipment. Secure or remove all loose or protruding parts of a damaged bus. To avoid possible personal injury, **DO NOT** get under a bus that is being lifted by the towing equipment unless the bus is properly blocked and supported. The GILLIG Low Floor should never be towed more than a few feet without first disconnecting the driveline.
- An auxiliary air supply of 100 to 120 psi should be provided to the bus while it is being towed, so that adequate air is available to operate the brakes. Any time the air pressure falls below 65 psi, the parking brake engages automatically. The Low Floor bus is fitted with emergency air fittings at the front and rear behind the bumpers. This allows operation of the brakes and suspension while the bus is being towed. The front emergency air fitting has a cap/filter assembly which must be removed prior to hooking up an external air source. Be sure to reinstall the cap/filter assembly after towing the bus.
- Never tow a vehicle over 35 miles per hour (55 kilometers per hour).



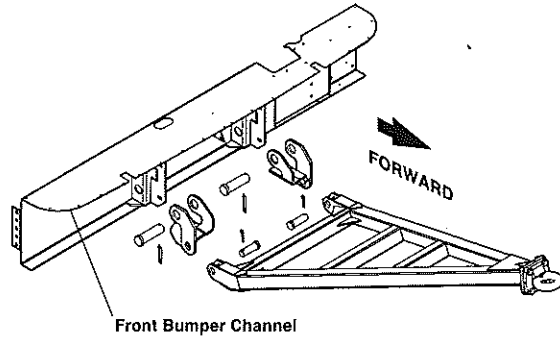
### **CAUTION**

Remove the driveshaft or axle shafts before towing the bus! Towing with the driveline rotating will damage the transmission. Clean up any spilled oil.

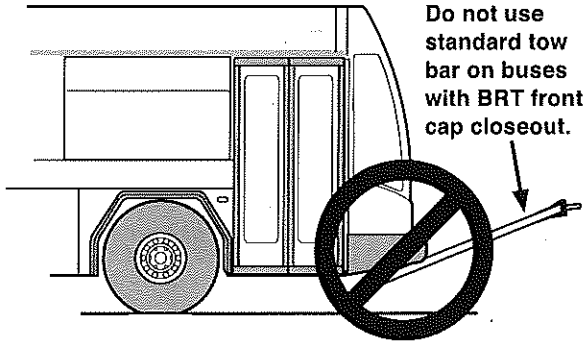
**Flat Towing (All Wheels on the Ground)**

A fixed tow bar (Figure 1-9 or Figure 1-11) should be used only for flat towing the Low Floor. If your bus has the streamlined (BRT) front structure, you must use the BRT tow bar in order to avoid damaging the front cap lower closeout (see Figure 1-10).

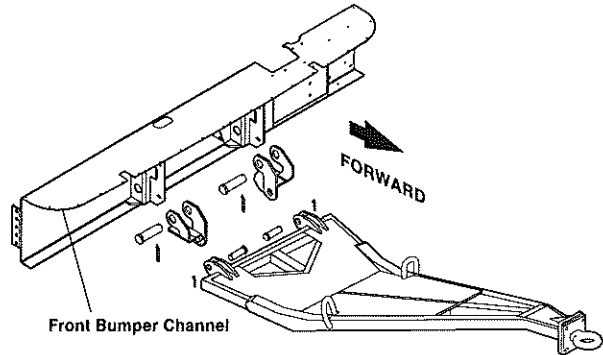
See Figure 1-12 for ground clearance and towing height for BRT tow bars.



**Figure 1-9, GILLIG Fixed Tow Bar for Standard Low Floor**



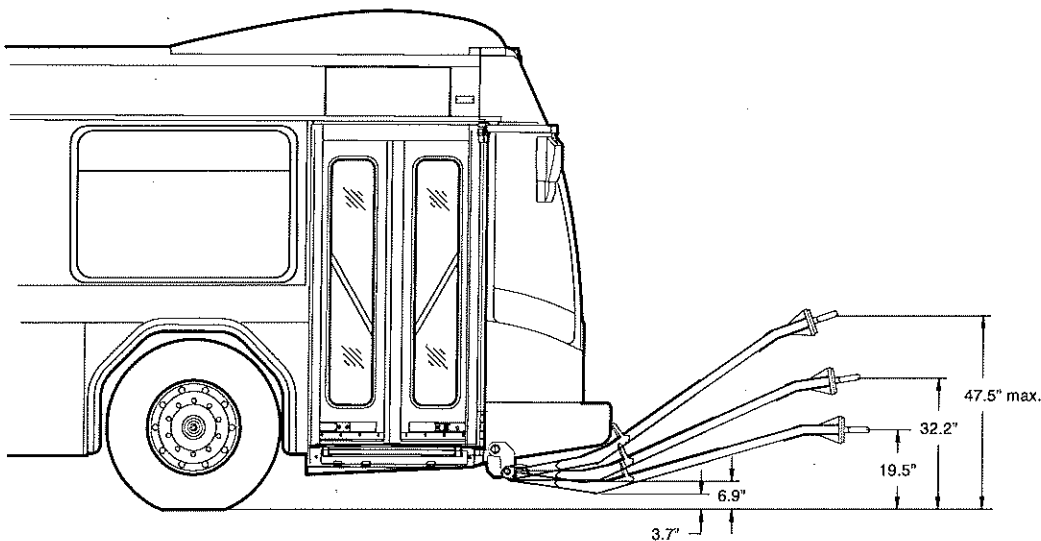
**Figure 1-10, Incorrect Tow Bar on BRT Bus**



**Figure 1-11, GILLIG Fixed Tow Bar for BRT Buses**

**CAUTION**

Do not try to lift the front wheels with a tow bar. GILLIG tow bars are for flat towing with all four wheels on the ground only. For towing with the front wheels raised, see important information on the following page.



**Figure 1-12, BRT Tow Bar Ground Clearance and Towing Height**

## Towing with Front Wheels Raised (Hooking)



### CAUTION

Do not try to lift the front wheels with a tow bar. GILLIG tow bars are for flat towing with all four wheels on the ground only.

If it is necessary to tow with the front of the bus elevated, the front axle must be securely chained so that the shock absorbers and air springs are not damaged. Chain the front axle as follows.

1. Support the frame securely with blocks or jack stands.
2. Make sure that wheels are pointing straight ahead.
3. Working from behind the front axle, secure the chains around the tie rod to the structure behind, as shown in Figure 1-13. Minimum chain size is 3/8".
4. Lift the front of the bus and verify that the chains are supporting the axle.
5. Use towing points **A** or towing points **B** as shown in Figure 1-13.

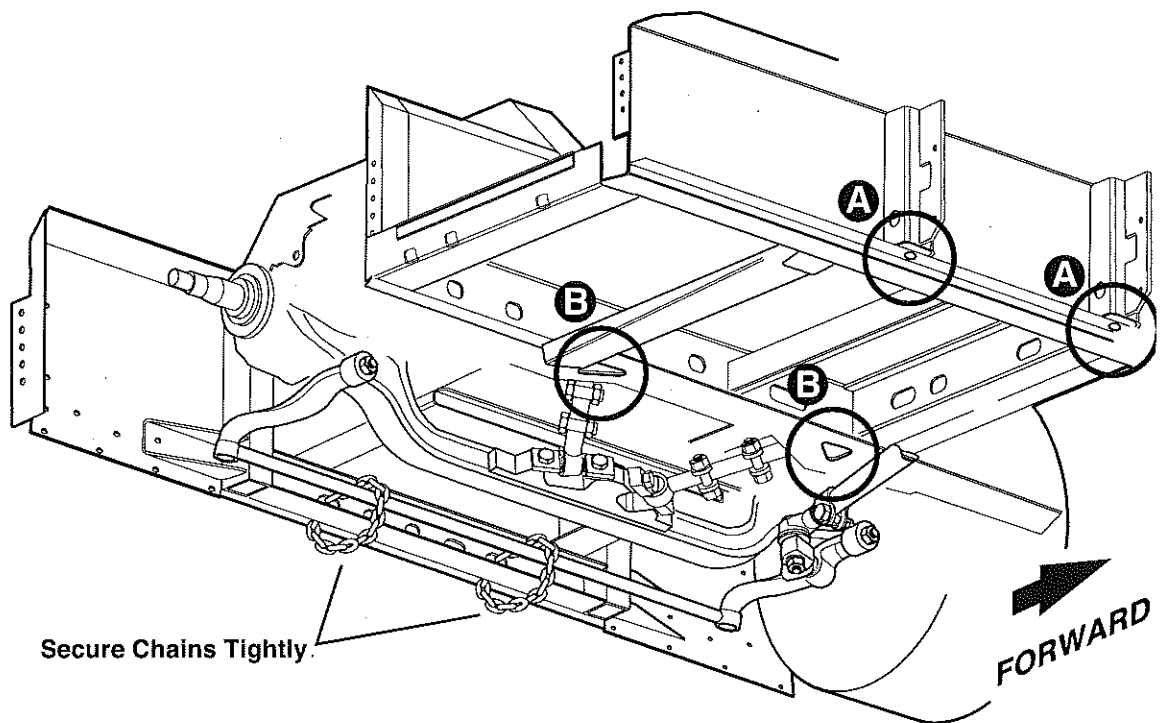


Figure 1-13, Tow Points and Chaining Front Axle

**Driveshaft Removal**



**WARNING**

The driveshaft is very heavy. Be careful when removing it.

1. Remove retaining screws and bearing straps on one U-joint. See Figure 1-14.
2. Slide drive shaft back to allow U-joint to clear yoke, being careful that bearing caps do not fall off. Secure bearing caps in position.
3. Repeat the process at the other universal joint, then remove the drive shaft.

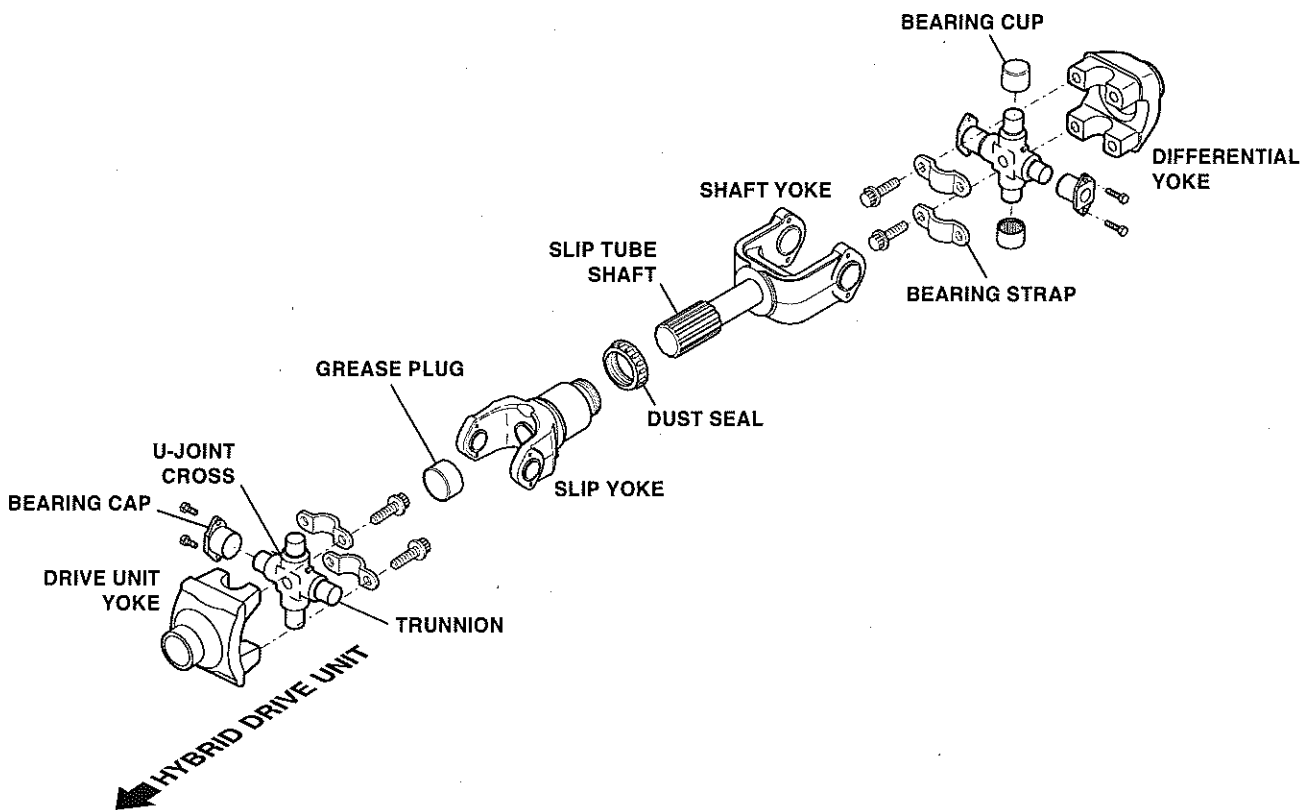


Figure 1-14, Driveshaft

## Axle Shaft Removal

1. Remove the nuts and washers from the hub studs.
2. Strike the center of the flange with a lead hammer to loosen the flange and dowels from the studs (Figure 1-15). An alternative method is to use a large hammer (5 to 6 pounds) against a 1.5" brass drift or a 1.5" brass mallet used as a drift.
3. Withdraw the axle shaft from the housing, then remove the gasket from the hub or flange. Three threaded holes may be provided in the axle shaft flange for use with puller screws if necessary.

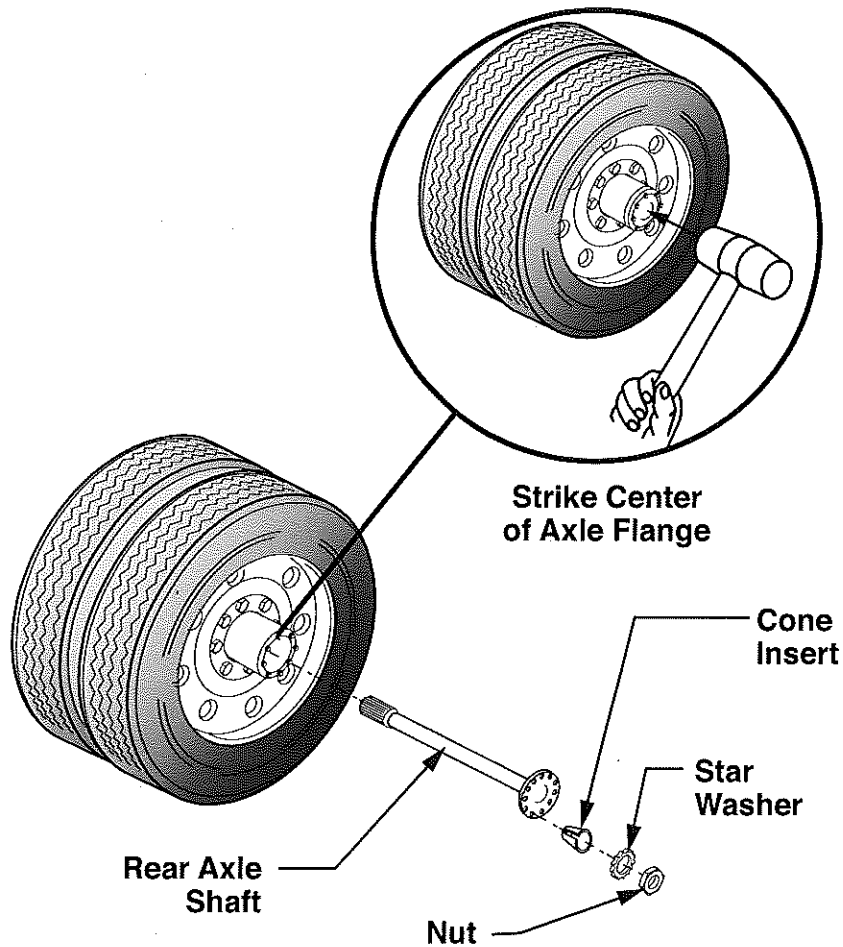


Figure 1-15, Axle Shaft Removal