

# F.A.S.T. Anchoring System

**USERS MANUAL**







## **CHIEF'S LIMITED ONE-YEAR WARRANTY & LIABILITY**

Chief Automotive Technologies, Inc. warrants for one year from date of installation and/or purchase any of its products which do not perform satisfactorily due to defect caused by faulty material or workmanship. Chief's obligation under this warranty is limited to the repair or replacement of products which are defective and which have not been misused, carelessly handled, or defaced by repair or repairs made or attempted by others.

**CHIEF AUTOMOTIVE TECHNOLOGIES, INC. DOES NOT ASSUME RESPONSIBILITY FOR ANY DEATH, INJURY OR PROPERTY DAMAGE RESULTING FROM THE OPERATOR'S NEGLIGENCE OR MISUSE OF THIS PRODUCT OR ITS ATTACHMENTS. CHIEF MAKES NO WRITTEN, EXPRESS OR IMPLIED WARRANTY WHATSOEVER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE REGARDING THE EQUIPMENT OR ANY PART OF THE PRODUCT OTHER THAN THE LIMITED ONE-YEAR WARRANTY STATED ABOVE.**



## Introduction

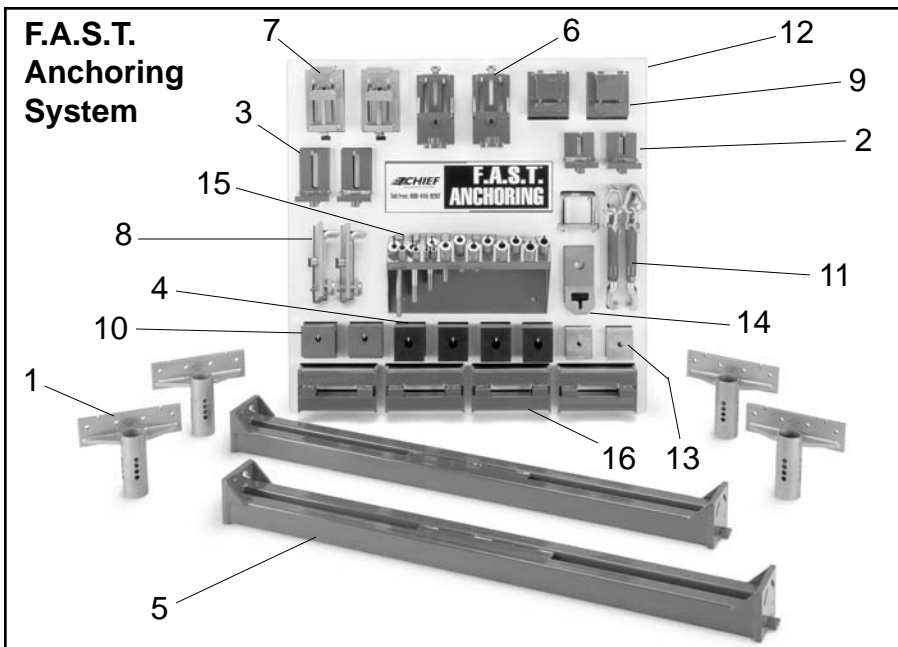
The flexibility of Chief Automotive's F.A.S.T. Anchoring System allows it to secure frame rail vehicles to the mainframes of most pulling systems. The equipment can be used in conjunction with standard size Universal Anchoring System (UAS) stands, Universal Measuring System (UMS) pinchweld stands, or Anchoring Adapter System bases that allow insertion of UAS or UMS adapter tubes. The design of the F.A.S.T. Anchoring System keeps anchoring stand bases outboard of the vehicle's structural components allowing more room for measuring.

In addition to providing a secure hold, the system can be adjusted so the vehicle is level from front to rear and from side to side. In addition, many of the system's components

allow a frame rail to move with the pull when correcting diamond.

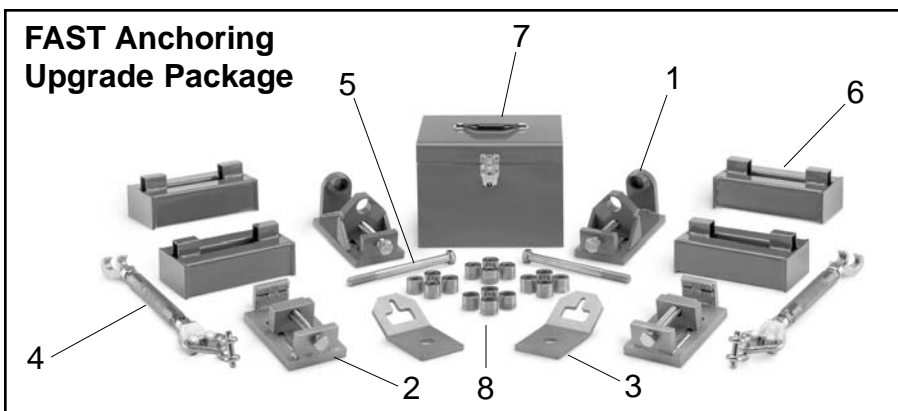
Anchoring system usage is easy and is limited only by the imagination of the technician doing the work. The equipment adapts to the majority of today's pickup trucks, sport utility vehicles and full frame cars. This manual provides an overview of the system components, basic usage guidelines and parts information.

**NOTE:** All of Chief's measuring systems can be used in conjunction with the F.A.S.T. Anchoring System. If using the Universal Measuring System, however, refer to page 14 for datum height adjustment procedures.



### F.A.S.T. Anchoring System

1. Anchoring Adapter Tubes
2. L Bracket Assemblies, 3.5
3. L Bracket Assemblies, 7.5
4. Spacers
5. Crossbar
6. Spring Bolt Vise Assemblies
7. Narrow Rail Vise Assemblies
8. Spring Shackle Assemblies
9. Vertical Clamp Assemblies
10. Horizontal Clamp Assemblies
11. Turnbuckle Assist Assemblies
12. Accessory Board Assembly
13. Tie Down Plates
14. Tie Back Brackets
15. Misc. Bolts, Nuts, Washers, Bushings
16. Riser Bars (3")



### F.A.S.T. Anchoring (Upgrade Package)

1. Spring Bolt Vise Assemblies
2. Narrow Rail Vise Assemblies
3. Tie Bracket Brackets
4. Turnbuckle Assists
5. Bolt, M20 x 2.5 x 260mm HHCS
6. Riser Bars (3")
7. Tool Box
8. Misc. Bushings

## Anchoring Stand / Crossbar Installation

**IMPORTANT:** Before installing anchoring equipment, identify location of base reference points in four corners of vehicle's center section. Anchoring equipment must not interfere with the measuring of these points.

Correct positioning of anchoring stands and crossbars are the first steps toward installation. To accomplish this:

1. Position anchoring stands at four corners of vehicle's center section near anchoring locations. Anchoring locations may include: suspension/spring mounts, cradle mounts, box frame rails, open channel frame rails, or reference holes on side of frame rails.

**NOTE:**

- If using Universal Anchoring System (UAS) bases (see Figure 1), insert Universal Measuring System (UMS) adapter tubes in the bases and adjust each to an identical height. (See Universal Anchoring System Owners Manual - Part No. 618740).
- If using UMS pinchweld stands, position appropriate size clamp mounts (for pulling system used) directly below the anchoring locations. Then insert UMS pinchweld stands in the clamp mounts. (See UMS Pinchweld Stands Owners Manual - Part No. 150118). (See Figure 2.)
- If using an Anchoring Adapter System, position appropriate size clamp mounts (for pulling system used) directly below anchoring locations. Then install anchoring system bases into the clamp mounts and insert UMS adapter tubes. (See Figure 3.)

2. Lift either the front or rear of the vehicle. Use a Chief Air Jack or other suitable lifting device(s) and lift both sides of vehicle at the same time. (See Figure 4.)

**CAUTION:**

- If lifting front of vehicle first, place vehicle in park, engage parking brake, and block both rear wheels using 4 inch wood blocks. (See Figure 5.) Block front and rear of each wheel.
- If lifting rear of vehicle first, block both front wheels using 4 inch wood blocks. Block front and rear of each wheel.

**NOTE:** The vehicle must be kept level for measuring purposes. To do this, it may be easier to anchor the rear corners of the center section first and then adjust the height of the front anchoring locations to establish level.



Figure 1

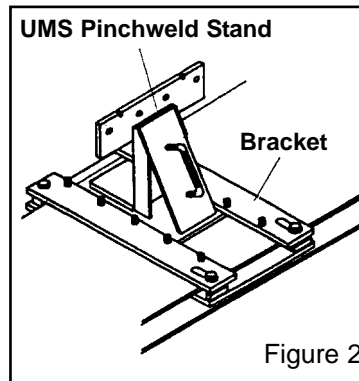


Figure 2

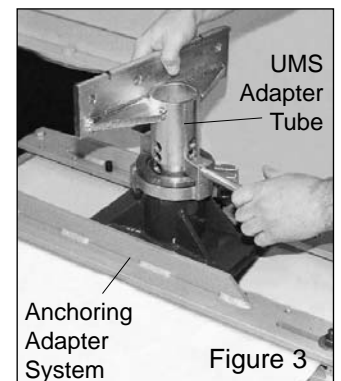


Figure 3

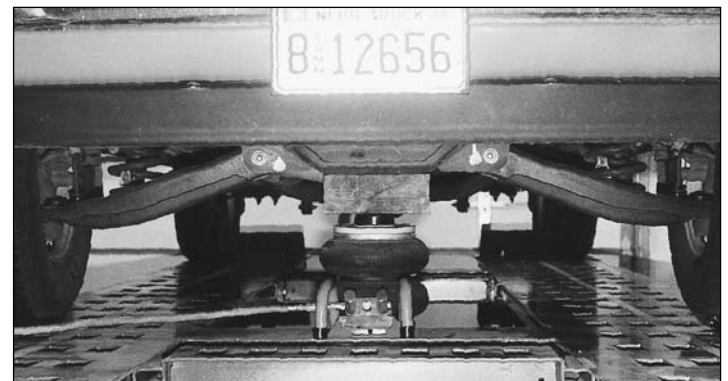


Figure 4



Figure 5

3. At elevated end of center section, place crossbar directly below anchoring locations.
4. Position anchoring stands at ends of crossbar. Make sure they are located identically, one side of vehicle to the other. Attach stands to mainframe but do not secure firmly at this time.
5. Attach crossbar to the anchoring stands. (See Figure 6 and its Inset.)

**IMPORTANT:** Some setups may require rotation of crossbar to match slope of attachment or rail. To do this, use curved slots at end of crossbar. (See Figure 7 and its Inset.) Place one washer between bolt head and anchoring stand mounting surface and another between nut and mounting surface of crossbar.

6. Adjust height of crossbar (if needed) by raising or lowering anchoring stand tube. (See Figure 8.)
7. Install anchoring attachments. Firmly secure attachments to the vehicle's structure, but loosely secure attachments to the crossbar using tie down bolts and tie down plates. (See Figure 9.)

**See attachment descriptions and specific guidelines beginning on page 5.**

**IMPORTANT:**

- 1) Tie down bolts thread directly into the base of all but one attachment. If needed, insert appropriate size spacer between tie down plate and bottom of crossbar if bolt is too long. (See Figure 9 Inset.)
  - 2) The horizontal clamp is the only attachment requiring the use of a washer and nut to secure the attachment.
8. After installing the first two anchoring stands, repeat steps 2 - 6 at the opposite end of the center section.
  9. After all four anchoring stands and attachments are installed, firmly secure all anchoring assemblies.

**Correction Of Diamond**

If one of the rails must move with the pull (for example: to correct diamond) follow the guidelines on pages 12-13 - "Correcting Diamond".)

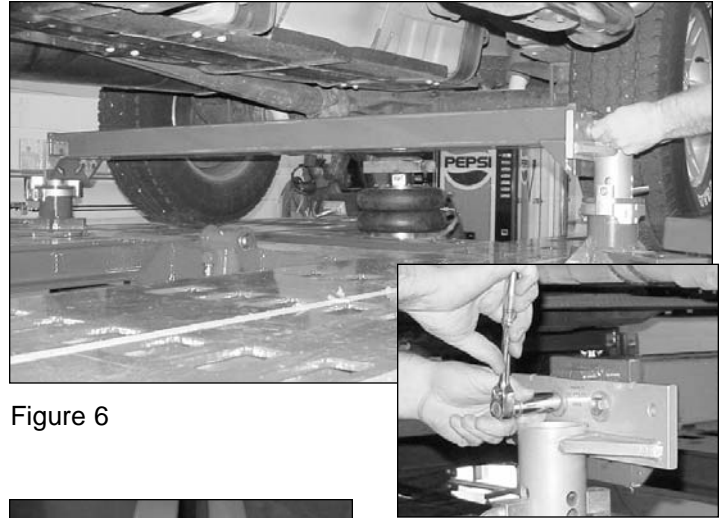


Figure 6

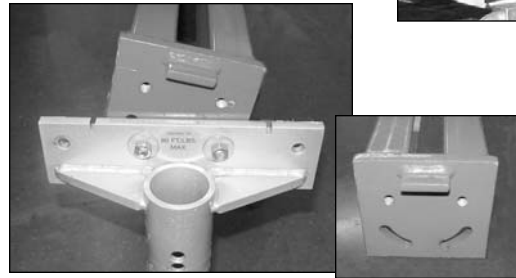


Figure 7

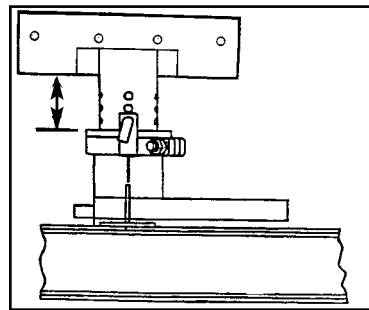


Figure 8

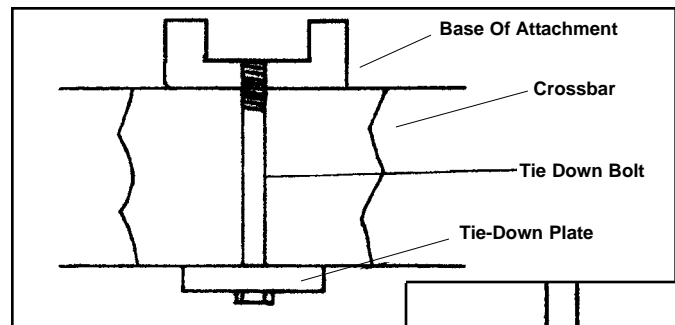
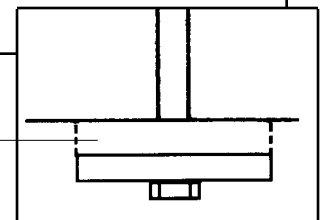


Figure 9

Insert Spacer If Needed



## Anchoring Accessories

Four accessories are provided with the F.A.S.T. Anchoring System that improve its capabilities. Two of the accessories are designed for height adjustment whereas the other two are used for support during pulling situations.

### Spacers

Five sizes of **spacers** are provided allowing technicians to add height to an anchoring assembly. Spacer sizes include: 1/8 inch (3.17mm) 1/4 inch (6.35mm), 1/2 inch (12.7 mm), 1 inch (25.4 mm), and 2 inches (50.8 mm). (See Figure 10.) The spacers are inserted between the crossbar and the attachment and are held in place by the tie down bolts that project upward through the assembly. (See Figure 11.)

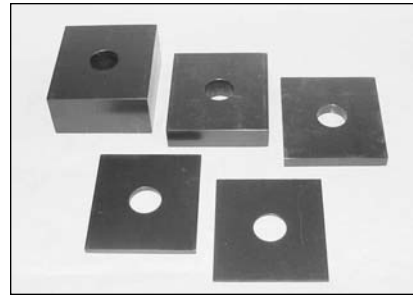


Figure 10

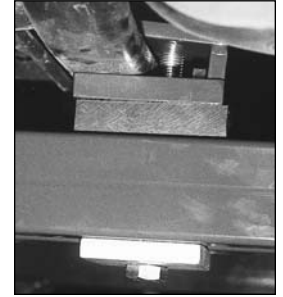


Figure 11

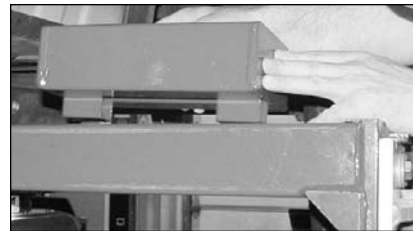


Figure 12

### 3 Inch Riser Bars

In addition to spacers, **3 inch riser bars** (see Figure 12) are provided for situations when additional height is required. The riser bars mate with the channel in the crossbar and may occasionally be stacked two high in some applications.



Figure 13

### Turnbuckle Assists

A pair of **turnbuckle assists** are provided for secondary holding or support purposes. The device consists of a cylindrical center unit with adjustable hooks at each end. When used with a tie down chain, it provides a secure attachment to the mainframe. Figure 13 shows a turnbuckle assist supporting an anchoring stand.

Turnbuckle assists may also be used as tie down attachments to hold structural components while pulls are made on the opposite side of the vehicle. T-hooks and/or tie down chain can be used in these situations as needed.



Figure 14

### Tie Back Brackets

A pair of **tie back brackets** are also provided. (See Figures 14 and 15.) These brackets fit between the attachment and the top of the riser bar in tall anchoring applications. They provide an ideal hookup point for turnbuckle assist / tie down chain applications.

In addition, the tie back brackets may also be used as spacers. Their 3/8 inch (9.5mm) thickness allows additional height adjustment capabilities.

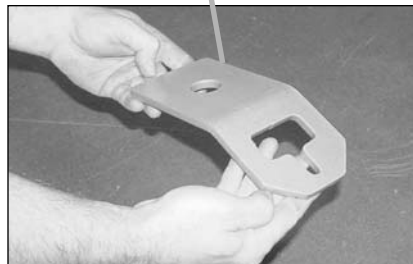


Figure 15

## Anchoring Attachments

### Narrow Rail Vise Attachment

The narrow rail vise attachment is used to secure box-shaped frame rails. It is primarily used in the front of the vehicle's center section; however, it can be used in the rear of the center section in some applications.

1. Position rail vise on top of the crossbar directly below the boxed rail. (See Figure 16.) If extra height is needed, position appropriate size spacer (or 3 inch riser bar) between crossbar and rail vise. If using the 3 inch riser bar, insert tie back bracket between rail vise and top of riser bar. (See **Special Pulling Situations** below.)
2. Lower vehicle to position boxed rail in jaws of rail vise. Tighten the adjustment bolt to hold the assembly in place. (See Figure 17.) If necessary, attach a 20mm nut (Part No. 539016) to end of adjustment bolt to extend its adjustment capability. (See Figure 17 Inset.)

**CAUTION:** Keep fingers and hands clear of all contact points.

**IMPORTANT:** DO NOT use an impact wrench to tighten the rail vise.

3. Secure rail vise to the crossbar using an appropriate length tie down bolt and tie down plate. Insert bolt upward through channel in crossbar and hole in spacer(s) - if installed. Thread the bolt into the base of the rail vise and hand-tighten at this time. (See Figure 18.)
4. Repeat steps 2-4 on the opposite side of the vehicle.
5. Install appropriate anchoring equipment at the opposite end of the center section.
6. Firmly tighten all anchoring components.

### Special Pulling Situations

- If a 3 inch riser bar is used, install tie down chain and turn-buckle assist to support the assembly. Secure the tie down chain to the tie back bracket. (See example - Figure 19. Inset shows close up of tie back bracket.)
- If one of the rails must move with the pull (for example: to correct diamond), see pages 12 - 13 - "Correcting Diamond".

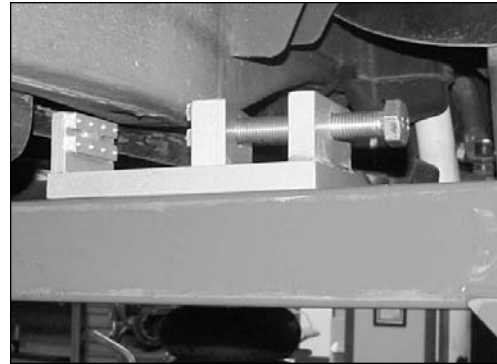


Figure 16

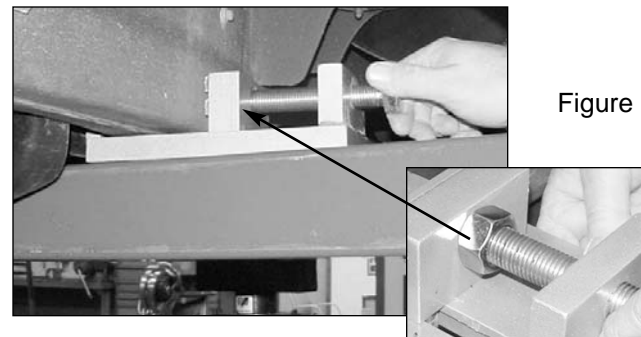


Figure 17

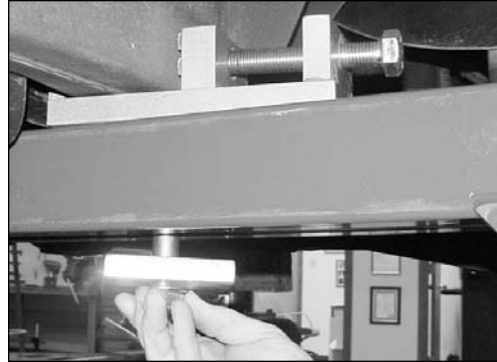


Figure 18

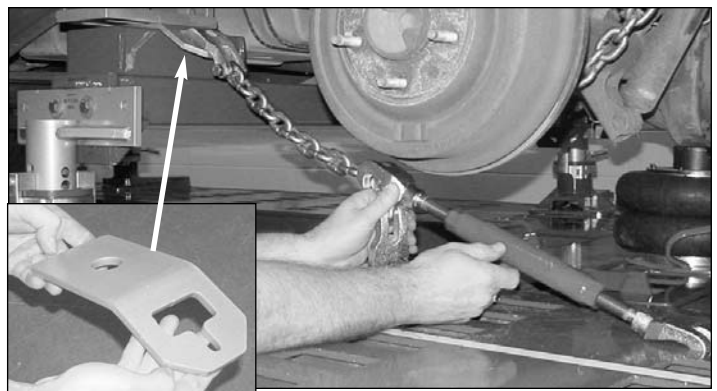


Figure 19

## Horizontal Clamp Attachment

Position horizontal clamps on the crossbars for attachment to the lower lip of open channel frame rails. The clamp assembly is secured to the crossbar and frame rail using an appropriate length tie down bolt, tie down plate, nut and washer. (See Figure 20 and its inset.) In this application a 3/4 inch spacer was installed between the clamp and the crossbar.

If one of the rails must move with the pull (for example: to correct diamond), see pages 12 and 13 - "Correcting Diamond".

**IMPORTANT:** The combination of spacers used with the Horizontal Clamp must not exceed 3 inches. Exceeding this limit negates the use of the longest bolt (260mm) provided - Part No. 539009.

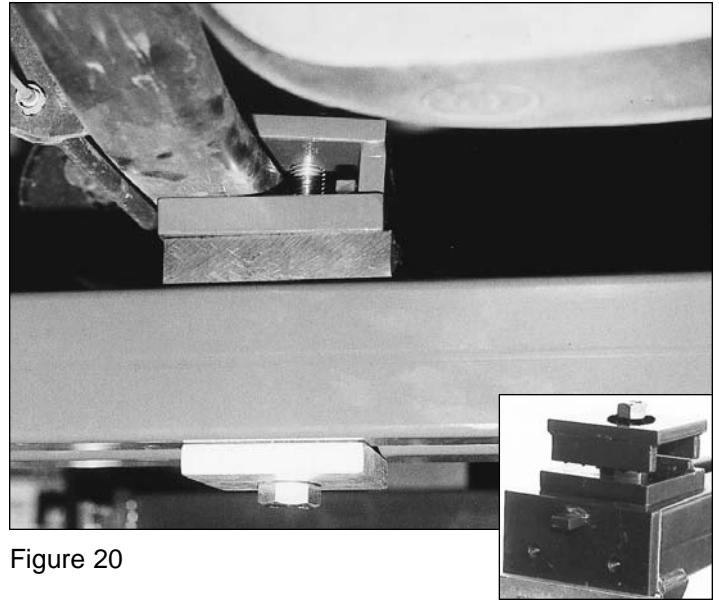


Figure 20

## Vertical Clamp Attachment

The adjustable jaws of the vertical clamp assembly are designed to hold the vehicle secure preventing fore and aft and lateral movement of rails. The configuration of the clamp jaws (see Figure 21 and its Insets) allows them to reach around obstructions (i.e. torsion bars). Vertical clamp assemblies mount directly to the crossbars of the system using an appropriate length tie down bolt and tie down plate.

If one of the rails must move with the pull (for example: to correct diamond), see pages 12 and 13 - "Correcting Diamond".

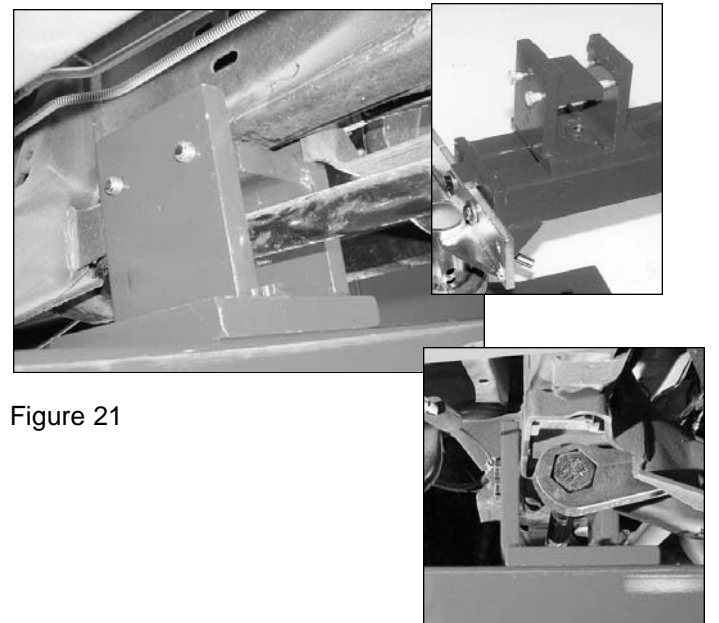


Figure 21

## L-Shaped Attachment

L-shaped attachments are provided in two sizes. They are secured to crossbars using appropriate length tie down bolts and tie down plates. The attachments allow rail movement in direction of pulls or prevent rail movement in the wrong direction. (For example: when correcting diamond and sway.)

Figure 22 shows L-shaped attachment used as a guide or block positioned on outer side of a rail. Figure 23 shows attachment positioned on inner side of a rail. In some instances, it may be necessary to position spacers between vertical surfaces of rail and L-shaped attachments..

Slot in L-shaped attachment allows access for bolting attachment directly to reference hole on side of frame rail or for straddling bolt that projects from rail's vertical surface. (See Figure 24.)

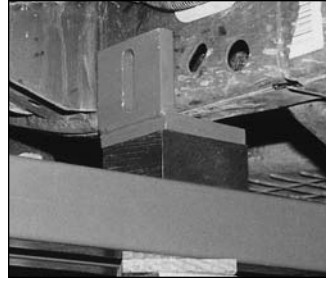


Figure 22

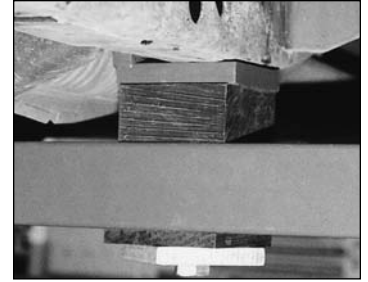


Figure 23

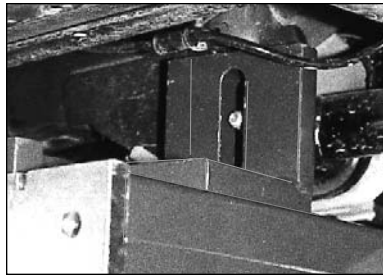


Figure 24

## Spring Bolt Vise Attachments

The spring bolt vise attachments mount to the crossbars of the F.A.S.T. Anchoring System and mate with the design of spring / trailing arm mount bolts at the rear of the center section. The attachments should be used whenever both sides of a spring bolt are accessible.

1. Insert appropriate size bushings into spring bolt vise attachment. (See Figures 25 and 26)
2. Lift spring bolt vise attachment into position making certain the bushings engage both ends of the spring bolt. (See Figure 27.)

**IMPORTANT:** Engage inside portion of spring bolt prior to outside portion of spring bolt.

3. Tighten adjustment bolt to secure attachment to spring bolt. (See Figure 28.) DO NOT firmly tighten at this time.
4. Chain rear suspension to frame rail to prevent interference with measuring and allow for drive shaft clearance. (See Figure 29.)

**NOTE:** This step may not be required on some vehicles.

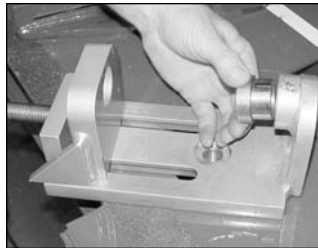


Figure 25

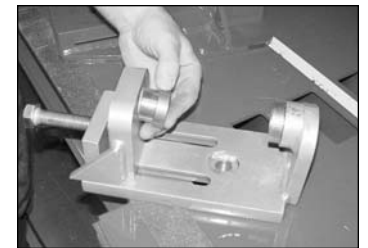


Figure 26



Figure 27



Figure 28




Figure 29

5. Install appropriate size spacer (if needed) on crossbar directly below spring bolt vise attachment. Some vehicles may require installation of a 3 inch riser bar between attachment and top of long bar. (See Figure 30.)

**IMPORTANT:** Before proceeding see Special Pulling Situation at bottom of this page.

6. Insert a tie back bracket between the attachment and riser bar (see Figure 31) and lower vehicle making sure the attachment engages both the hole in the tie back bracket and the channel in the riser bar.

 **CAUTION:** Keep hands and fingers clear of all contact points when lowering the vehicle.

7. Secure the spring bolt vise attachment to the crossbar using an appropriate length tie down bolt and tie down plate.
8. For additional support, attach auxiliary chain to tie back plate and secure it to mainframe using a turnbuckle assist. (See Figure 32.)
9. Repeat the anchoring procedures on opposite side of vehicle.
10. After installing the front anchoring assemblies, firmly tighten all anchoring components.

### Special Pulling Situation

If one of the rails must move with the pull (for example: to correct diamond), see pages 12 and 13 - "Correcting Diamond".

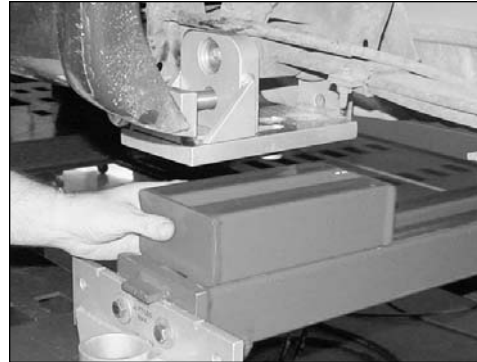


Figure 30



Figure 31



Figure 32

## Spring Shackle Attachment

Spring shackle attachments mount to the crossbars and mate with the design of spring / suspension mount brackets. The attachments are primarily used at the rear of the center section whenever the spring bolt vise attachments can not be used due to space limitations.

1. Position spacers or riser bars below spring / suspension mount brackets. (See Figure 33.) In this example, two 3 inch riser bars are required to install the attachment.

**IMPORTANT:** Before proceeding, see Special Pulling Situations on page 11.

2. Place a tie back bracket between the spring shackle attachment and the riser bar. (See Figure 34 — Inset shows close up of tie back bracket.) Make sure the two items are directly below the spring / suspension mount bracket.
3. Lower the vehicle until spring / suspension mount bracket rests on spring shackle attachment.
4. Secure the anchoring assembly to the crossbar using an appropriate length tie down bolt and tie down plate.
5. Secure spring shackle attachment to the trailing arm using bracket and bolts provided. The bolts thread directly into the base of the spring shackle attachment. (See Figures 35 and 36.)

**NOTE:** Vehicles with heavy-duty leaf springs (3" — 76.2mm) require the use of U-Bolt attachments to secure the spring shackle attachments. (See Figure 37.) U-Bolt attachments may be installed right-side-up or up-side-down to accommodate the assembly.

**IMPORTANT:** If wheels are to be removed, insert (spacers between leaf spring and spring shackle attachment after the wheels are removed. If rear wheels will not be removed, insert spacers after vehicle is secured to the anchoring assembly. (See Figure 38 - page 11.) The purpose of the spacers is to protect the springs.



Figure 33



Figure 34

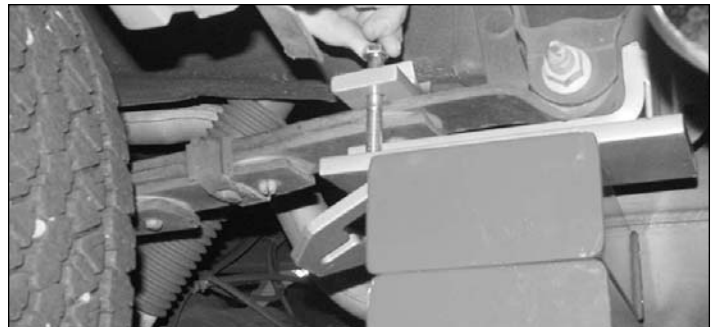


Figure 35

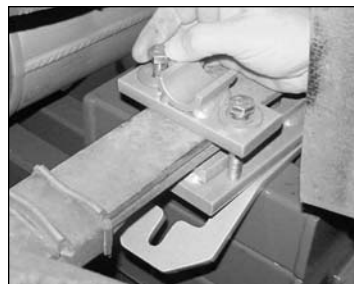


Figure 36

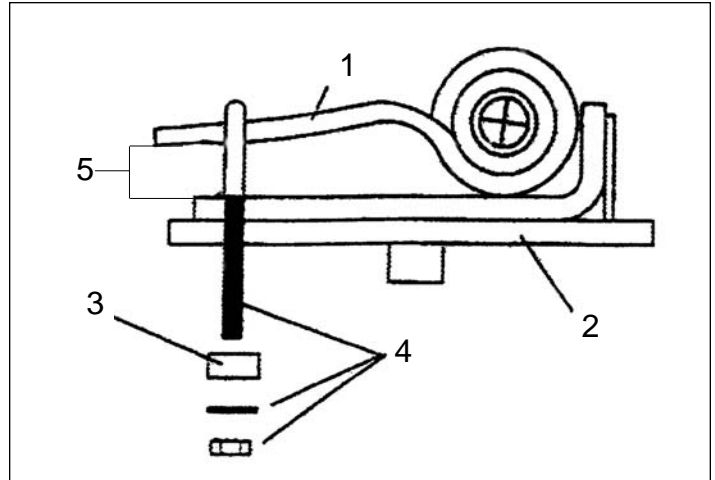


Figure 37

6. Repeat anchoring procedures on opposite side of vehicle.
7. Secure tie down chains to tie back brackets and connect the tie down chains to the mainframe using turnbuckle assists. (See Figure 39 and its Inset.)

### Special Pulling Situation

If one of the rails must move with the pull (for example: to correct diamond), see pages 12 and 13 - "Correcting Diamond".



- |                             |                               |
|-----------------------------|-------------------------------|
| 1 Leaf Spring               | 4 U-Bolt, Washer, Nut         |
| 2 Spring Shackle Attachment | 5 Fill this area with spacers |
| 3 Strap                     |                               |

Figure 38

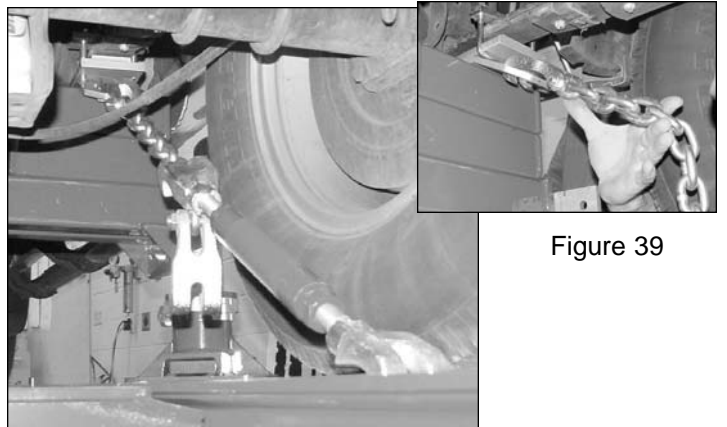


Figure 39

## Optional Accessories

**Standard hole adapters** (optional accessory) attach to the crossbars and prevent lateral movement of structural components. Both the standard hole adapter (see Figure 40) and **offset hole adapter** (see Figure 41) have a 35mm diameter that can be expanded to 50 mm by adding an outer sleeve. (See Figure 42.)

Both hole adapters mate with reference holes on the underside of frame rails and they attach to crossbars using appropriate length tie down bolts and tie down plates.

### IMPORTANT:

- 1) To prevent the attachments from moving when making angular or side pulls, install a turnbuckle assist and tie down chain on opposite side of pull.
- 2) To allow rail movement for the correction of diamond, see pages 12 and 13 - "Correcting Diamond".

**Standard Rail Vise Attachments** (optional accessory) function much like the narrow rail vise. (See page 5.) The wider jaws of the standard vise (see Figure 43) provides a broader gripping area. The extra width; however, requires the use of two adjustment bolts to secure the jaws firmly to a boxed frame rail. The attachment is secured to the crossbar using appropriate length tie down bolts and tie down plates.

If one of the rails must move with the pull (for example: to correct diamond), see pages 12 and 13 - "Correcting Diamond"..

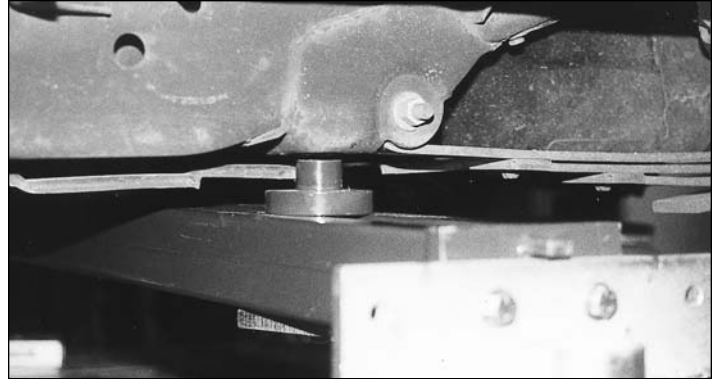


Figure 40

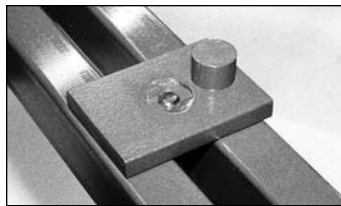


Figure 41

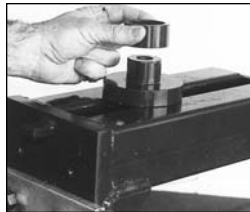


Figure 42

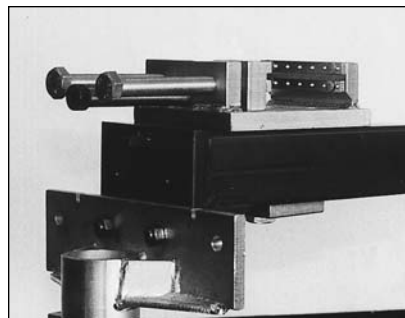


Figure 43

## Correcting Diamond

To correct a diamond, the rail on one side of the vehicle must be firmly secured to the mainframe at both front and rear anchoring locations. The rail on the opposite side must be supported at both front and rear anchoring locations and be allowed to move with the pull.

Adjustments can be made to F.A.S.T. anchoring assemblies to allow rail movement. This adjustment, however, basically depends upon the 'use' or 'non-use' of riser bars in the anchoring assemblies. It may also depend upon the configuration of the rail. (See **attachment exceptions** - page 13.)

### **If Riser Bar Is Installed:**

1. Lift end of vehicle and on side of vehicle that must move, rotate riser bar (top riser bar if two are used) so that it straddles the crossbar. (See Figure 44.)

2. Lower vehicle to engage attachment base with groove in riser bar. DO NOT secure attachment to the crossbar at this time.

**NOTE:** This setup will allow rail movement across top of riser bar.

3. Secure anchoring stand to mainframe using tie down bolt and fastener plate, but DO NOT tighten firmly at this time.

4. After pull is made, resecure attachment to crossbar using appropriate tie down bolt and plate. (See Figure 45.)

**NOTE:** If needed, readjust position of anchoring stand to allow insertion of bolt upward through channels in crossbar and riser bar and into base of attachment.

5. Firmly tighten the tie down bolt securing anchoring stand to mainframe.

### **If Riser Bar Is Not Installed:**

1. Firmly tighten all anchoring components except for the tie down bolt that secures the anchoring stand to the mainframe.

**NOTE:** With this bolt kept loose, the entire anchoring assembly can move with the pull. Use a hammer and wood block at base of anchoring stand to assist movement during the pull. (See Figure 46.)

2. After pull is made, firmly tighten the bolt to secure the anchoring stand to the mainframe.

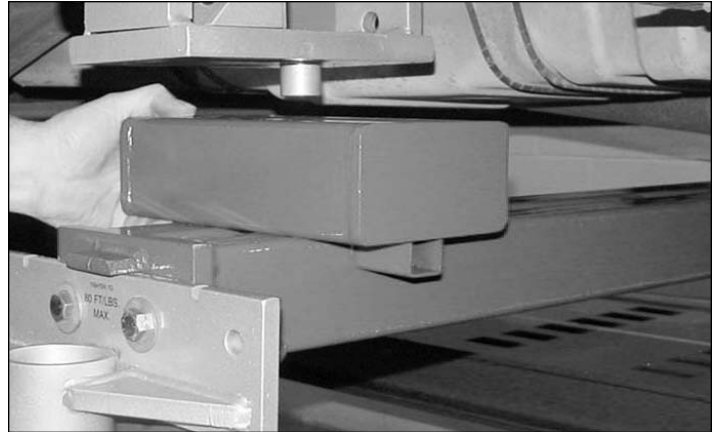


Figure 44

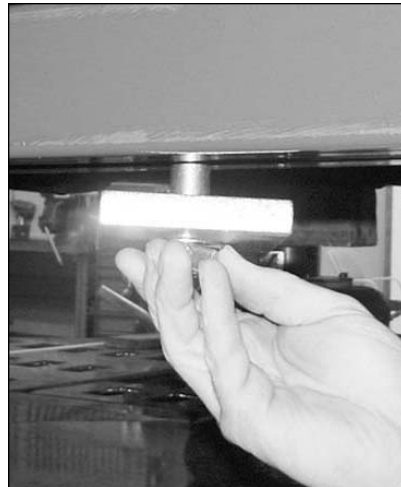


Figure 45



Figure 46

## Correcting Diamond (continued)

### Possible Exceptions — Vise Attachments And Horizontal Clamps

The anchoring adjustments for correcting diamond on the preceding page cover all FAST Anchoring System assemblies including those in which **vise attachments** or **horizontal clamp attachments** are used.

In some rare instances; however, these attachments may offer an easier way to pull for diamond. If the frame rails to which they attach are free of obstructions (for example - see Figure 47), technicians may simply loosen the jaws of the attachment to allow rail movement. After the pull is made, the jaws are resecured to the rail.

Unfortunately, the design of most rails have multiple obstructions that would interfere with rail movement through the jaws of the attachment. Figure 48 shows one example of a frame rail obstruction.

**▲ CAUTION:** DO NOT make pulls to correct diamond until:

1. Rail that 'must not move' is firmly secured at both front and rear anchoring locations.
2. Rail that will move is supported by anchoring equipment and is free to move with the pull.



Figure 47



Figure 48

## Adjustments Required When Using Universal Measuring System

Install Universal Measuring System (UMS) as per its specification sheet and measure height of four base reference points in vehicle's center section. Then compare measurements of both front and rear points with their specifications. (See example - Figure 49.)

**NOTE:** If diamond or twist exist in center section, follow prescribed procedures for measuring and correcting.

To use UMS successfully, the difference between actual measurements and specifications must be identical (or nearly identical) from front of center section to rear. To adjust the vehicle referenced in Figure 49, a technician could try one of the following:

- Elevate front anchoring location 10mm to create a difference of +30mm at both front and rear.
- Lower rear anchoring location 10mm to create a difference of +20mm at both front and rear.
- Elevate front anchoring location 5mm and lower rear anchoring location 5mm to create a difference of +25mm at both front and rear.

Height adjustments are made using spacers provided. Thicknesses include: 1/8 inch (3.17mm), 1/4 inch (6.35mm), 1/2 inch (12.7mm), 1 inch (25.4mm) and 2 inches (50.8mm). UMS

### Center Section Base Reference Points

	Actual Measurements	Specifications	Difference
<u>Front</u>	300mm	280mm	+ 20mm
<u>Rear</u>	420mm	390mm	+ 30mm

Figure 40

Adapter Tubes can also be raised or lowered in 3/4 inch (19 mm) increments.

Once differences are equal from front of center section to rear, all other datum height measurements can be gathered and adjusted by the same amount.

**NOTE:** If it is impossible to match the front and rear differences, get them as close as possible and then average the resulting numbers. (See example - Figure 50.) In this example, all other datum height measurements would then be adjusted by 23mm.

### Center Section Base Reference Points

	Actual Measurements	Specifications	Differences
<u>Front</u>	300mm	280mm	+ 20mm
<u>Rear</u>	420mm	394mm	+ 26mm
		average	+ 23mm

Figure 50

The amount of deflection in a vehicle's end section will vary dependent upon anchoring locations selected. Although the amount of this deflection can not be predetermined, it will be equal one side of vehicle to the other. For example: If amount of deflection is 12mm on both sides of rear section, and there are no visual indications of damage, the deflection is likely due to anchoring.

**NOTE:** Chief specifications are obtained from vehicles that are anchored at specific points and at specific heights which unload the suspension.

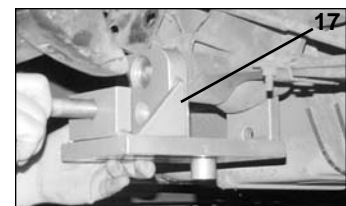
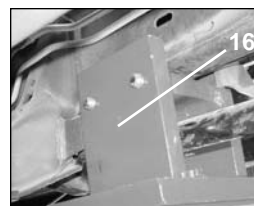
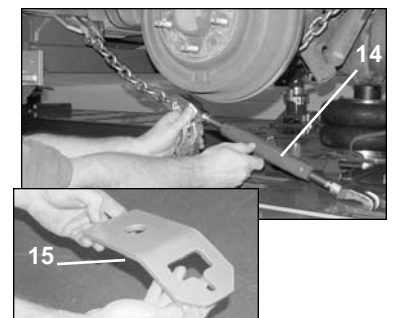
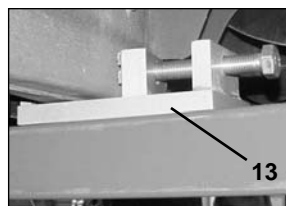
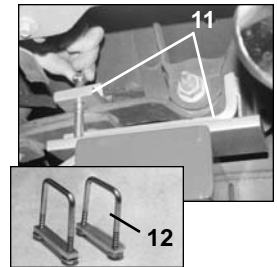
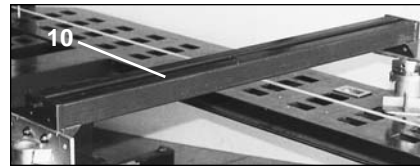
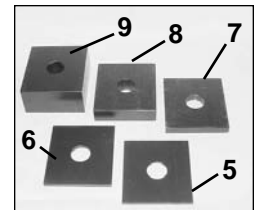
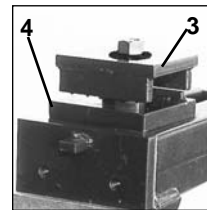
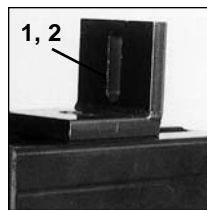
## Parts Information

To order parts for the F.A.S.T. Anchoring System, contact a Chief Automotive Technologies representative or contact Chief Automotive Technologies, 1924 East Fourth Street, Box 1368, Grand Island, Ne. 68802-1368, 800-445-9262, and refer to part numbers listed. When contacting Chief Automotive Technologies by telephone or mail, provide the following information: name, name of business, business telephone number, business address, description of parts and part numbers.

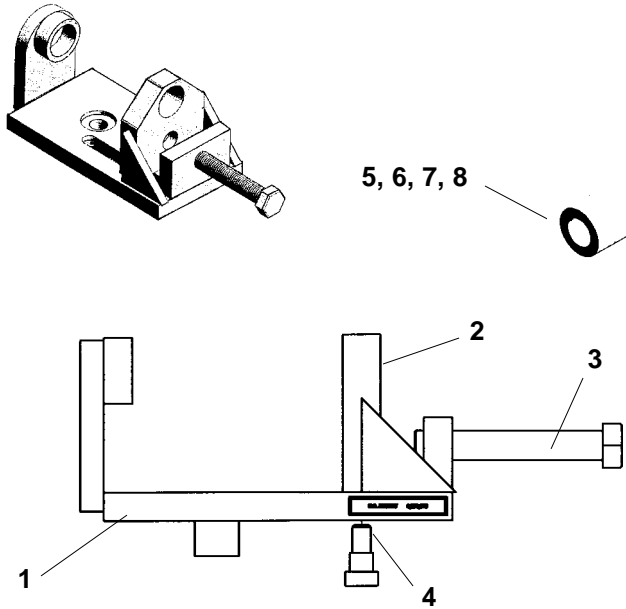
**NOTE:** Chief reserves the right to alter product specifications and/or package components without notice.

**CAUTION:** Always use Chief Automotive Technologies authorized replacement parts with the F.A.S.T. Anchoring System. When replacing any part, make certain the part meets the original equipment requirements.

Ref.	Part No.	Description
1	539400	3.5 L Bracket
2	539404	7.5 L Bracket
3	539360	Chief Clamp Half
4	539365	Chief Clamp Base
5	539438	Spacer, 4.5 x 4.0 x .125
6	539407	Spacer, 4.5 x 4.0 x .25
7	539408	Spacer, 4.5 x 4.0 x .5
8	539409	Spacer, 4.5 x 4.0 x 1.0
9	539410	Spacer, 4.5 x 4.0 x 2.0
10	539415	Crossbar
11	539423	Spring Shackle Assembly (see page 17)
12	539327	U-Bolt (2 per package) (see page 17)
13	539337	Narrow Rail Vise Assembly (see page 16)
14	628220	Turnbuckle Assist (see page 18)
15	539539	Tie Back Bracket
16	539490	Vertical Clamp Assembly (see page 18)
17	539341	Spring Bolt Vise Assembly (see page 16)
18	539541	3 Inch Riser Bar
19	508281	Anchoring Adapter Tube
	682953	Plate, EZ Liner Tie bolt
	601738	Washer, 3/4
	539448	Accessory Board Package
	539009	Bolt, M20 x 2.5 x 260mm HHCS
	539011	Bolt, M20 x 2.5 x 200mm HHCS
	539012	Bolt, M20 x 2.5 x 160mm HHCS
	539014	Bolt, M20 x 2.5 x 130mm HHCS
	539015	Bolt, M20 x 2.5 x 100mm HHCS
	539016	Nut, M20 x 2.5, Hex
	539017	Bolt, M16 x 2.0 x 45mm HHCS
	539018	Nut, M16 x 2.0mm, Hex
	539019	Washer, Flat, M16
	539021	Bolt, M12 x 1.75 x 45mm HHCS
	539022	Bolt, M12 x 1.75 x 80mm HHCS
	539024	Nut, M12 x 1.17mm, Hex
	539025	Washer, Flat, M12
	605464	Triangle
	629132	Pin
	629386	Shackle
	539411	Hole Adapter, <b>Optional Accessory</b>
	539422	Hole Adapter Sleeve, <b>Optional Accessory</b>
	539370	Offset Hole Adapter, <b>Optional Accessory</b>
	539444	Std. Rail Vise Attachment, <b>Optional Accessory</b>
	539449	F.A.S.T. Users / Parts Manual

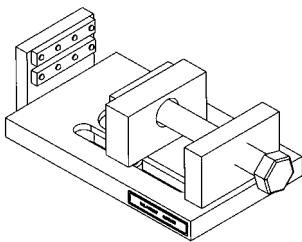


### Spring Bolt Vise Attachment

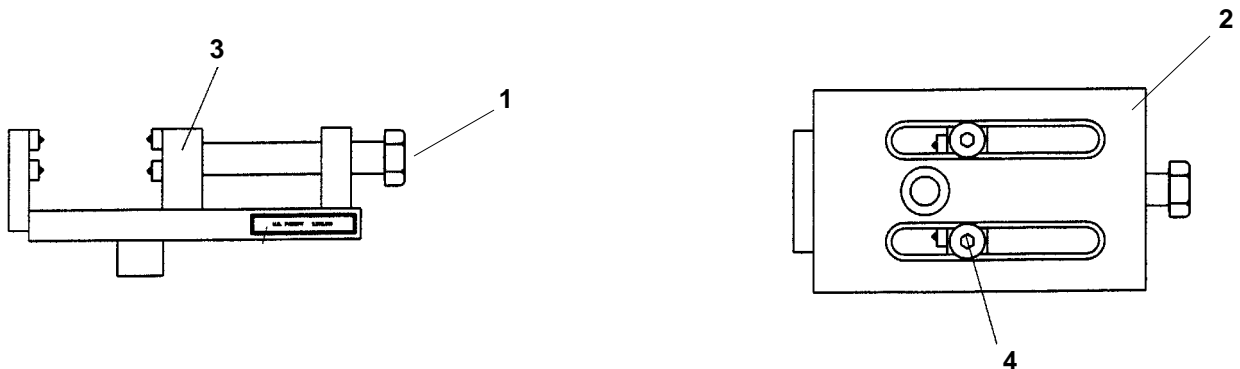


Ref	Part No.	Description
	<b>539342</b>	<b>Spring Bolt Vise Attach., Set of Two</b>
	<b>539341</b>	<b>Final Ass'y, Spring Bolt Vise Attch., Complete</b>
1	539339	Spring Bolt Vise Weldment
2	539340	Slide Block Weldment
3	539010	Bolt, M20 x 127mm Hex Cap Screw
4	011081	5/8 Hex Socket Head Shoulder Screw
5	539117	Bushing, 17mm
6	539119	Bushing, 19mm
7	539121	Bushing, 21mm
8	539124	Bushing, 24mm
	539346	Spring Bolt Vise Attachment Users Manual

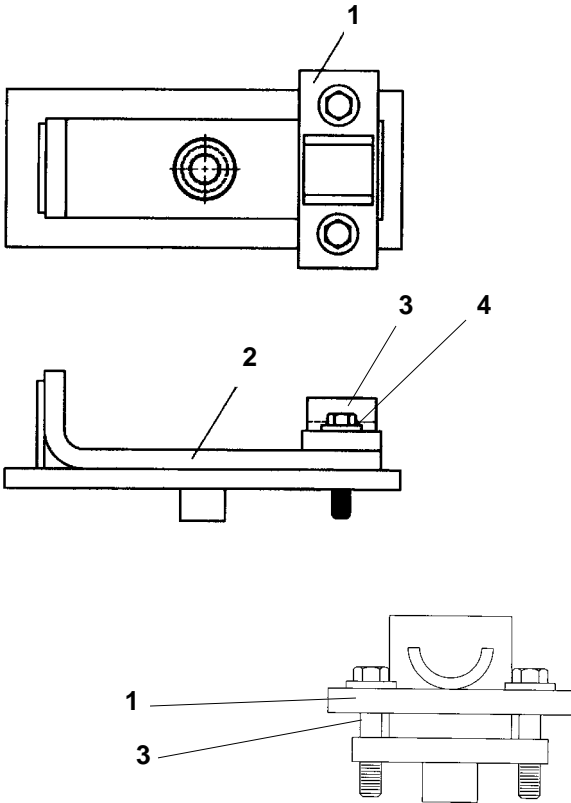
### Narrow Rail Vise Attachment



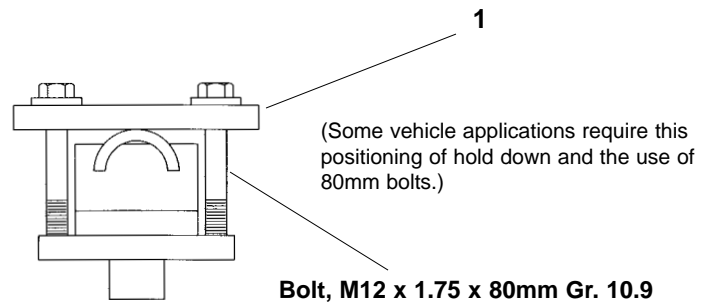
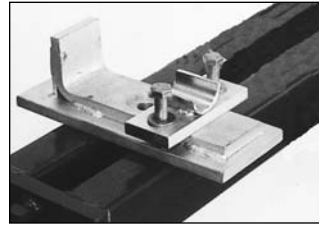
Ref	Part No.	Description
	<b>539337</b>	<b>Final Ass'y, Narrow Rail Vise Attachment, Complete</b>
1	539010	Bolt, M20 x 2.5 x 120mm
2	539334	Base plate/Bar assembly
3	539336	Slide Bar/Nail Bar Assembly
4	011081	Shoulder Screw, 5/8, Hex
	539347	Narrow Rail Vise Attch. Users Manual



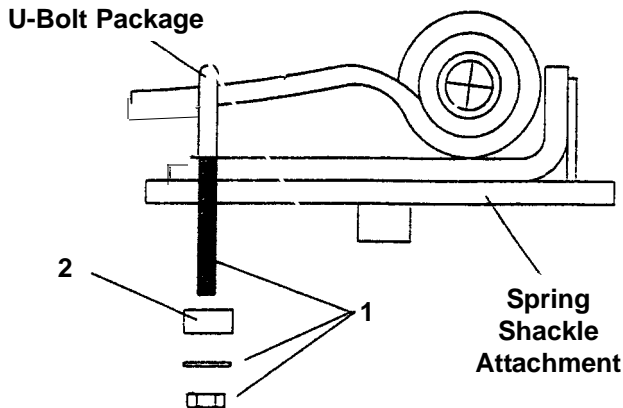
### Spring Shackle Attachment



Ref	Part No.	Description
	<b>539423</b>	<b>Spring Shackle Assembly, Complete</b>
1	539439	Spring Shackle Hold Down
2	539436	Spring Shackle Weldment
3	539020	Bolt, M12 x 1.75 x 60mm Gr. 10.9
4	539025	Washer, 12mm A325



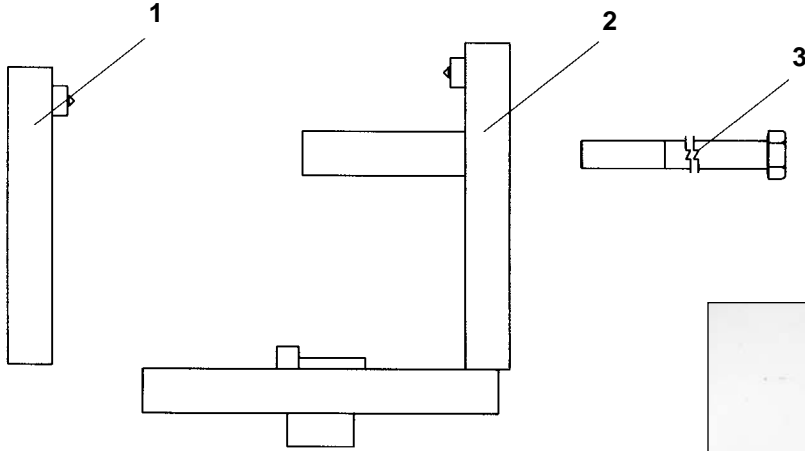
### U-Bolt Attachment Package



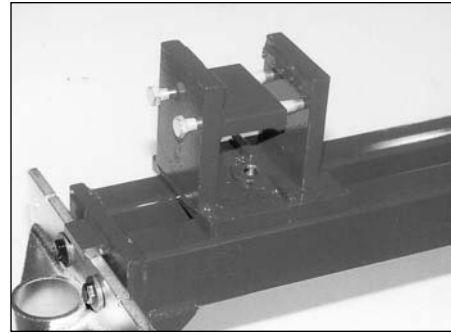
Ref	Part No.	Description
	<b>539327</b>	<b>U-Bolt Package, Set Of Two</b>
1	539326	U-Bolt (includes 3/8 washers and hex nuts)
2	539325	Strap



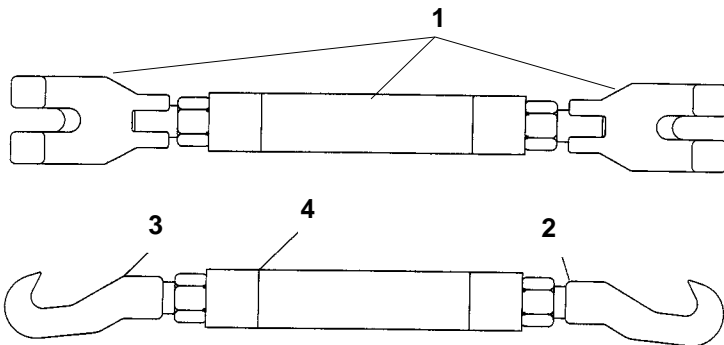
## Vertical Clamp Attachment



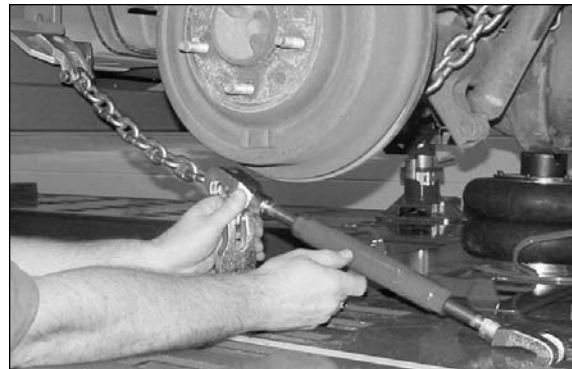
Ref.	Part No.	Description
	<b>539490</b>	<b>Vertical Clamp Attachment, Complete</b>
1	539485	Clamp Jaw Assembly
2	539486	Clamp Base Assembly
3	539030	Screw, Hex Head Cap, M12 x 130mm



## Turnbuckle Assist



Ref.	Part No.	Description
	<b>539630</b>	<b>Turnbuckle Assist, Set (2)</b>
1	628220	Turnbuckle Assist, Complete
2	628207	Hook / Rod, Left Hand
3	628208	Hook / Rod, Right Hand
4	628210	Turnbuckle Handle







**P.O. Box 1368  
Grand Island, Nebraska 68802-1368  
PH: 308/384-9747  
FAX: 308/384-8966**

**[www.chiefautomotive.com](http://www.chiefautomotive.com)**

**Chief reserves the right to alter product specifications  
and/or package components without notice.**