Truck-mounted Supplement to MF7000 Series Mixer Feeder Operator's Manual

GENERAL INFORMATION (Fig. 1)

NOTE: *"Right" and "left" are determined from a position standing behind the Mixer Feeder and facing the direction of forward travel. From this position, the Discharge Conveyor is on the left side. "Front" would be the truck cab end of the Mixer Feeder.*

This Supplement provides illustrated details for installation and operation of a Truck-mounted MF7000 Series Mixer Feeder. This Supplement is to be used in conjunction with the Operator's Manual titled "7000 Series Mixer Feeders". Refer to the Table provided for sizing and truck selection information.

CAUTION

BEFORE proceeding to perform any installation, modification or adjustments on this unit, exercise the MANDATORY SAFETY SHUTDOWN PROCEDURE as described in the Mixer Feeder Operator's Manual.

Fig. 1: Typical Truck-mounted Mixer Feeder

NOTE: *Mixer Feeders are designed for mounting on trucks having single rear axles and support beams which are a standard 34" (863.5 mm) apart. Many truck makes and models can be used, but the following minimum requirements on "Potential Weight" and "Cab to Axle" Dimensions MUST be met. Avoid mounting a Mixer Feeder on a truck equipped with a tandem rear axle because interference problems will develop when attempting to connect the Drive Line.*

Table 1: Mixer Feeder Potential Weights

Mixer Feeder Model	7285	7335	7435	7500
Empty Mixer Feeder Weight - lb (kg)	6,500 (2,948)	7,050 (3,198)	9,565 (4,339)	10,150 (4,604)
Potential Feed Weight at 30 lb/ft^3 (480 kg/m^3) - lb (kg)	6,840 (3,103)	8,040 (3,647)	10,440 (4,736)	12,000 (5,443)
Potential Loaded Mixer Feeder Weight lb (kg)	13,340 (6,051)	15,090 (6,845)	20,005 (9,074)	22,150 (10,047)

Table 2: Truck Minimum Cab to Axle Dimensions in In (mm)

Mixer Feeder Model	7285	7335	7435	7500
Cab to Axle Dimension	102 (2,591)	114 (2,896)	126 (3,200)	138 (3,505)

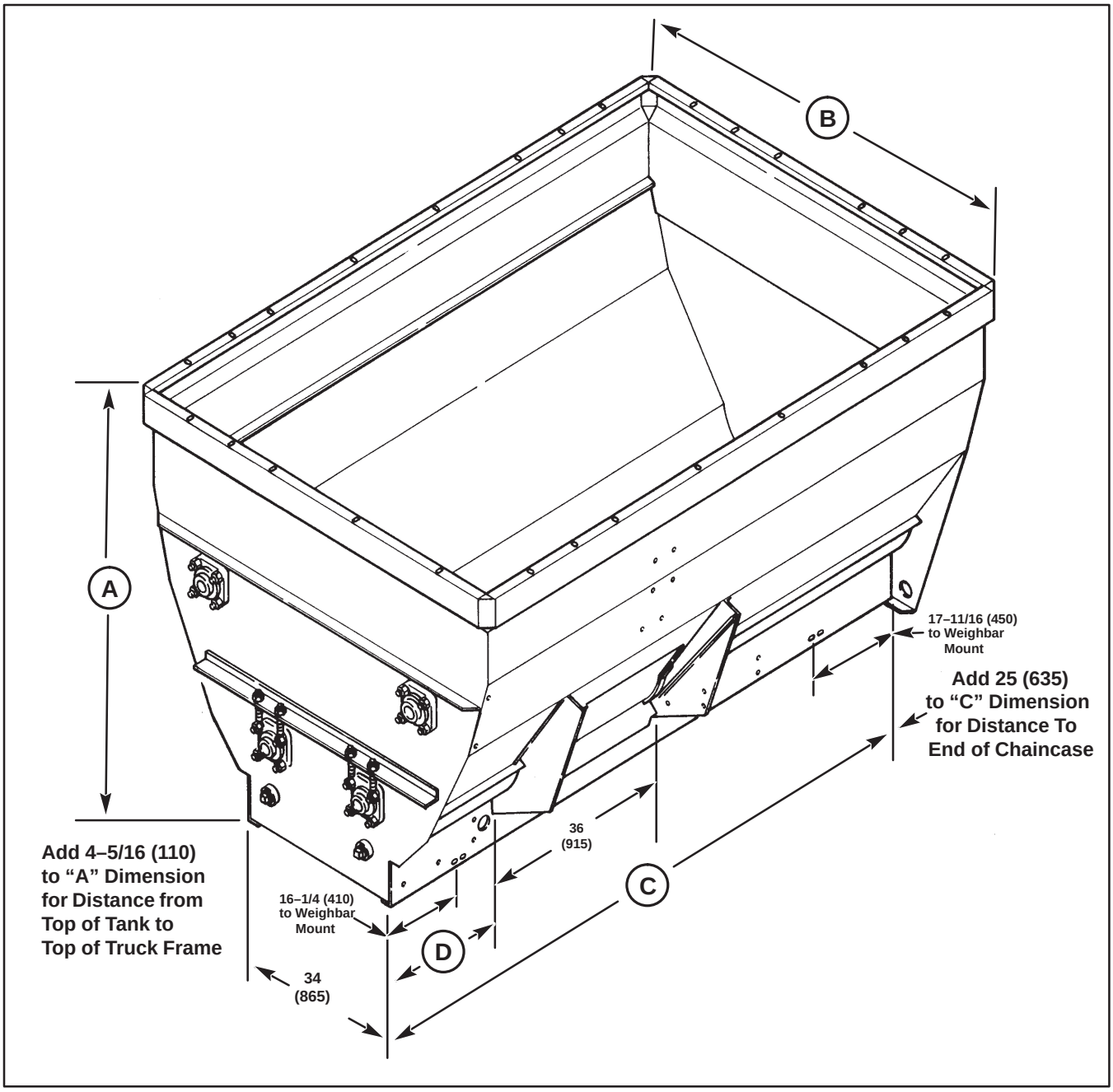


Fig. 2: Unit Dimensions & Mounting Locations in Inches (Millimeters)

Model	7285	7335	7435	7500
"A" Overall Height	77-7/16 (1,965)		80-7/16 (2,045)	
"B" Overall Width	80 (2,030)		88 (2,235)	
"C" Box Length	120 (3050)	144 (3,660)	168 (4,265)	192 (4,875)
"D" Door Distance from Front	25 (635)	37 (940)	49 (1.245)	61 (1,550)

Selecting a Mixer Feeder (Fig. 2)

Refer to the MF7000 Series Mixer Feeder Operator's Manual and select the appropriate Mixer Feeder (except the 7210 model) on the basis of your own particular mixing and feeding requirements.

Truck-mounted Mixer Feeders can be developed from any one of the MF7000 Series models, except the 7210 model. Hydraulic and electric power, to run the Mixer Feeder and Discharge Conveyor, is derived from the truck engine, electrical system and Drive Line-powered hydraulic system.

Selecting a Truck

Select a single rear axle truck with a weight carrying capacity at least equal to the respective value listed in Table 1 and Cab to Axle Dimension listed in Table 2. In addition, the truck should be equipped with a hand throttle and a tachometer.

Using the following "Power Take Off" and "Engine Horsepower Requirements", select the proper truck PTO and truck engine size.

Power Take Off Requirements

The truck PTO assembly should be:

1. Capable of transmitting a minimum of 200 ft-lb (271 N-m) torque.
2. Rotation opposite that of truck engine. i.e. So that the Chaincase Drive Shaft rotates clockwise when viewed from the back of the Mixer Feeder.
3. Approximate 50 to 60% reduction from the engine speed, so that at 2000 engine RPM, the Mixer Feeder Lower Augers rotate at 25 to 30 RPM. The standard Mixer Feeder reduction will rotate the lower Augers at 30 RPM with 1000 RPM on the truck PTO output shaft. If a PTO can NOT be selected to operate within this range, contact your dealer.

The following information is required for ordering the proper truck PTO:

4. Truck make (manufacturer).
5. Truck model (manufacturer's description).
6. Truck year.
7. Engine size.
8. Transmission model number.
9. Transmission make.
10. Number of speeds.
11. PTO opening locations.

Table 3: Mixer Feeder Minimum Horsepower Requirements

Mixer Feeder Model	Mixing Horsepower in hp (kw)
7285	31 (23)
7335	37 (28)
7435	48 (36)
7500	55 (41)

Truck Engine Horsepower Requirements

The minimum horsepower required to operate the appropriate model Mixer Feeder is listed in Table 3.

Then, calculate the truck horsepower requirement (truck horsepower minimum at 2,000 RPM) with 5 hp per 1000 lb (3.7 kw per 453 kg) of net load (total combined weight of feed and Mixer Feeder). Examples are provided for each respective model Mixer Feeder in Tables 4a through 4d.

NOTE: *The total minimum horsepower can vary greatly depending on the type (and resultant weight) of feed being mixed.*

Minimum Truck Horsepower Calculation Examples:

Table 4a: Truck-mounted MF7285 Mixer Feeder

Box Weight = 6,500 lb (2,948 kg)

Feed Weight = 6,840 lb (3,103 kg)

Total Weight = 13,340 (6,051 kg)

13,340 x 5 hp / 1000 lb = 67 hp

{6,051 x (3.7 kw / 454 kg)} = 50 kw

Total hp (kw) = Truck hp (kw) + MF hp (kw)

= 67 hp (50 kw) + 31 hp (23 kw)

= 98 hp (73 kw)

Table 4b: Truck-mounted MF7335 Mixer Feeder

Box Weight = 7,050 lb (3,198 kg)

Feed Weight = 8,040 lb (3,647 kg)

Total Weight = 15,090 (6,845 kg)

15,090 x 5 hp / 1000 lb = 75 hp

{6,845 x (3.7 kw / 454 kg)} = 56 kw

Total hp (kw) = Truck hp (kw) + MF hp (kw)

= 75 hp (56 kw) + 37 hp (28 kw)

= 112 hp (84 kw)

Table 4c: Truck-mounted MF7435 Mixer Feeder

Box Weight = 9,565 lb (4,339 kg)

Feed Weight = 10,440 lb (4,736 kg)

Total Weight = 20,005 (9,074 kg)

20,005 x 5 hp / 1000 lb = 100 hp

{9,074 x (3.7 kw / 454 kg)} = 75 kw

Total hp (kw) = Truck hp (kw) + MF hp (kw)

= 100 hp (75 kw) + 48 hp (36 kw)

= 148 hp (111 kw)

Table 4d: Truck-mounted MF7500 Mixer Feeder

Box Weight = 10,150 lb (4,604 kg)

Feed Weight = 12,000 lb (5,443 kg)

Total Weight = 22,150 (10,047 kg)

22,150 x 5 hp / 1000 lb = 111 hp

{10,047 x (3.7 kw / 454 kg)} = 83 kw

Total hp (kw) = Truck hp (kw) + MF hp (kw)

= 111 hp (83 kw) + 55 hp (41 kw)

= 166 hp (124 kw)

SET-UP & ASSEMBLY

CAUTION

A Mixer Feeder is extremely heavy and awkward. Moving and raising the unit, for set-up & assembly should be done from beneath using an adequately-sized fork-lift. Refer to weights listed in the Horsepower Calculation information under the "Truck Engine Horsepower Requirements" topic. In addition, before welding on the Mixer Feeder Frame, BE SURE to have the truck battery positive (+) cable connection removed as well as the Power Cord and Load Cell Cord connections removed from the Scale Indicator to prevent damaging delicate truck or Scale electrical components. BE SURE to locate the welding ground connection close to the weld area.

This Set-up & Assembly information is divided into two sections; Standard Components and Accessory Components. The Standard Components section is divided into six subtopics: Mixer Attachment to Truck Frame, Truck Drive Line Mounting, Discharge Conveyor Mounting, Scale System Mounting & Wiring, Directional Control Valve & Switches Wiring and, Fenders & Ladder Mounting. It should be understood that two people can and will be able to accomplish these procedures more quickly and efficiently.

NOTE: *The following abbreviations are used in this Supplement:*

CS - *Cap Screw (Hexagon Head)*

RHMS - Round Head Machine Screw

STS - Self-tapping Screw

L - *Lock (Washer)*

LN - *Lock Nut (Hexagon)*

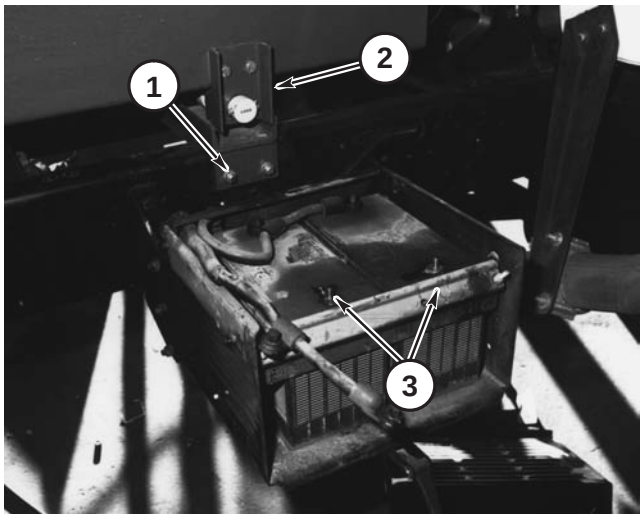
N - *Nut (Hexagon)*

P - *Plain (Washer)*

Standard Components

Mixer Attachment to Truck Frame (Figs. 3 & 4 & see Parts Exploded-view Drawings and Associated Parts Lists)

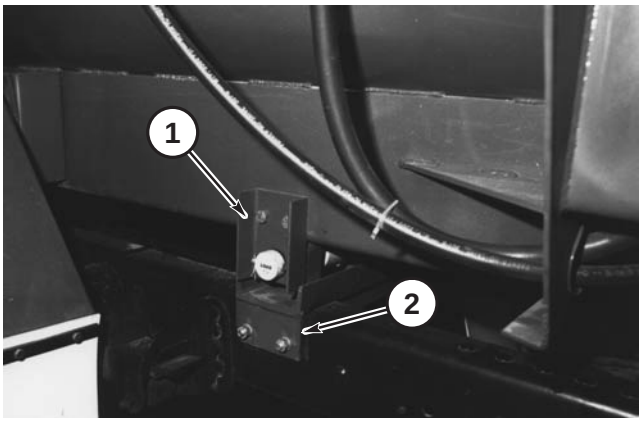
1. Properly orient and position the two Weighbar Mounts onto the truck frame; one near the truck cab and the other near the back end.
2. Properly orient (with Arrow pointing DOWN) and pre-install each of the four Weighbars into the front and back Weighbar Mount with (1 each) 3/8 x 2-3/4 Clevis Pin.
3. Properly orient and install each of the four Weighbar Brackets over the ends of the Weighbars. Install a 3/8 x 2-1/4 Clevis Pin through hole in the Weighbar to retain the Weighbar Bracket.



1 – Weighbar Mount
2 – Weighbar Bracket Secured in Pre-drilled Holes
3 – Truck Battery Positive(+) Cable Connection Removed for Welding

Fig. 3: Weighbar Mount on Front

4. Using a forklift, carefully place the Mixer Feeder into proper position over the truck frame and Weighbar Mounts and Brackets. The proper position is that location which will allow about two-thirds of the Mixer Feeder Box to be in front of the rear axle while still maintaining a minimum distance of 6", between the front of the Mixer Feeder and the back of the truck cab, for service and adjustment access. Then, slide the front and back Weighbar Mounts ahead or back to line-up the holes in the Weighbar Brackets with the pre-drilled holes in the Mixer Feeder Frame. If possible, use pre-drilled holes in the Mixer Feeder Frame for locating the Weighbar Brackets.



1 – Weighbar Bracket Secured in Pre-drilled Holes
2 – Weighbar Mount and Shim (If Required)

Fig. 4: Weighbar Mount on Back

NOTE: *Pre-drilled holes provide the best weight distribution. However, if interference is encountered, because of existing components attached to the truck frame, new 17/32" diameter holes will have to be drilled (using the Weighbar Brackets for locations) in the Mixer Feeder Frame for attaching the Weighbar Brackets. BE SURE to locate the new holes as close as possible to (but NO farther than 12" from) the pre-drilled holes.*

CAUTION

A Mixer Feeder is extremely heavy and awkward. Lower the Mixer Feeder Box just enough to line-up, drill and attach the Weighbar Mounts and Brackets. Support the Box with the forklift until it is secured.

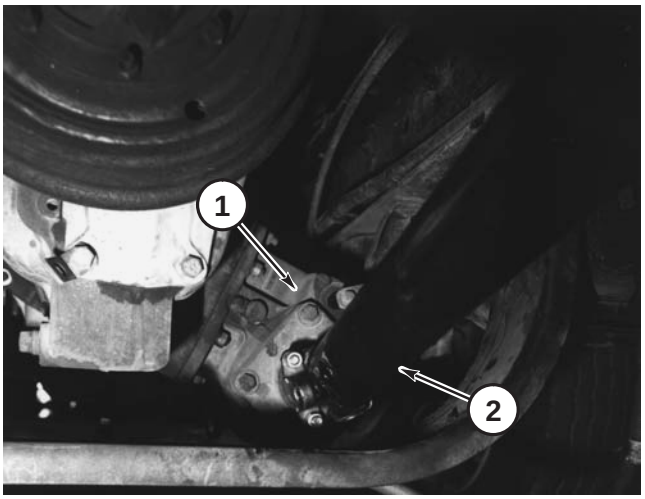
5. Tightly secure the Weighbar Brackets to the Mixer Feeder Frame using (2 each) 1/2 x 1-3/4 CS, P, L & N.
6. Drill the 17/32" diameter holes in the truck frame for attaching the Weighbar Mounts. Then, tightly secure the Weighbar Mounts and Shims to the truck frame with (4 each) 1/2 x 1-3/4 CS, L & N. After the Box is secured, the forklift can be removed.

NOTE: *BE SURE to use the correct number and size Shims, to obtain a tight fit between the Weighbar Mounts and the truck frame. In addition, Shims can be drilled or notched, as required, to provide clearance for protruding bolt heads, nuts, etc.*

Truck Drive Line Mounting (Figs. 5, 6, 7, 8, 9, 10, 11 & 12 & see Parts Exploded-view Drawings and Associated Parts Lists)

Based on the truck and Mixer Feeder being used, the Drive Line components may have to be shortened. Proceed as follows:

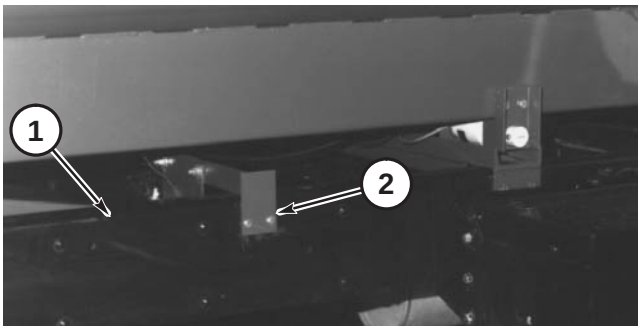
7. Connect the 1-1/4″ Yoke end of the Drive Line Tube assembly to the truck PTO shaft using the 5/16 x 1-1/4 Key (supplied) and the two Set Screws on the Yoke.



1 – Truck PTO Gearbox
2 – Drive Line Tube

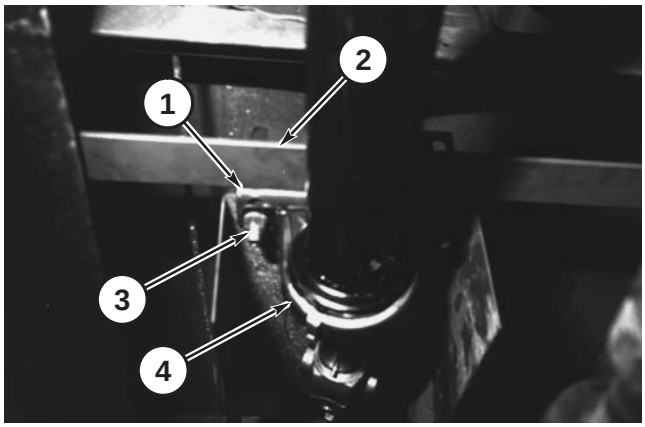
Fig. 5

8. Position 1 (of the 2) Mount Bracket on the truck frame in alignment with the Center Bearing assembly at the end of the Drive Line Tube. Then, properly orient and loosely attach the Bearing onto the Bearing Mount with (2 each) 1/2 x 1-1/4 CS, P, L and N.



1 – Truck Frame
2 – Mount Bracket (1 of 2) & Shim (If Required)

Fig. 6

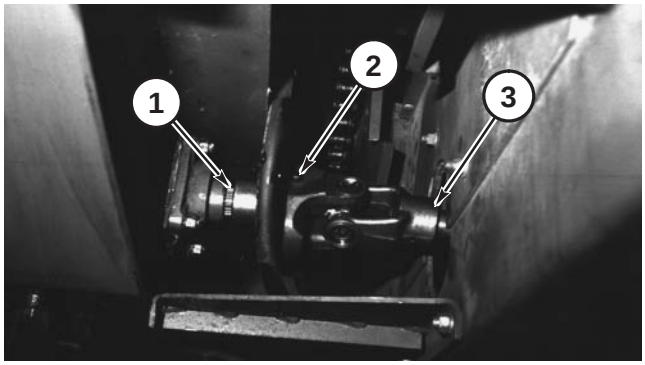


1 – Bearing Mount
2 – Mount Bracket (Front)
3 – 1/2 x 1-1/4 CS, P, L & N (1 each of 2)
4 – Center Bearing of Drive Line Tube

Fig. 7

9. Temporarily rest the other Mount Bracket on the truck frame in the area over the rear axle.

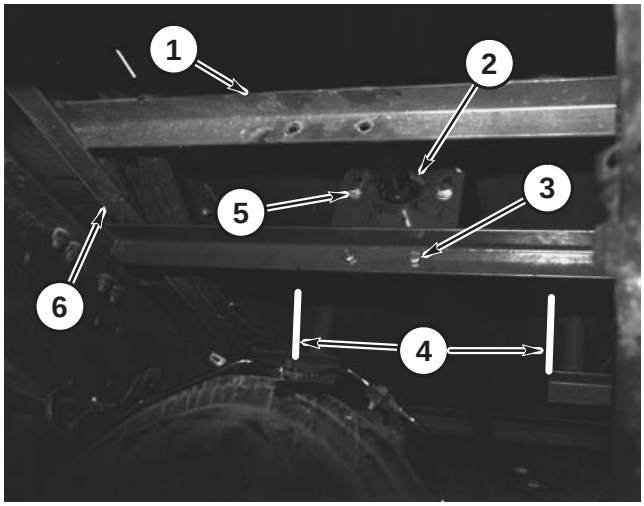
10. At the back end of the Mixer Feeder, temporarily Key the Ball Shear Joint to one (of the 2) 1-1/2 Drive Shafts. Apply Never Seize® (or equivalent lubricant) to the Chaincase Shaft splines. Then, slide the Shear Joint end of the Shaft assembly onto the Mixer Feeder Chaincase splined Shaft.



1 – Chaincase Splined Shaft (1/2" of Exposed Shaft)
2 – Ball Shear Joint Assembly
3 – (1 of 2)1-1/2" Diameter Drive Shaft (Keyway End)

Fig. 8

NOTE: *A piece of rope or chalkline can be conveniently used to check the planned Drive Line path for obstructions. It may also be desirable to make a cutaway in (or otherwise completely cut through) one of the existing Mixer Feeder Crossbrace Supports to achieve the most direct Drive Line path. If this is done, BE SURE to weld a new field-fabricated crossbrace (to replace the side to side reinforcement) as close as possible to the modification.*



1 – Field-fabricated Crossbrace Support
2 – Tackwelded Sleeve
3 – 1/2 x 1-1/2 CS, P, L and N (1 each of 2) Securing Hanger Bearing Plate to Mount Bracket
4 – Portion of Original Crossbrace Support Cut Away
5 – 1/2 x 1-1/4 CS, P, L and N (1 each of 2) Securing Bearing to Hanger Bearing Plate
6 – Back Mount Bracket Secured to Right Side of Mixer Feeder Frame with (2 each) 3/8 x 1-3/4 CS, L and N.

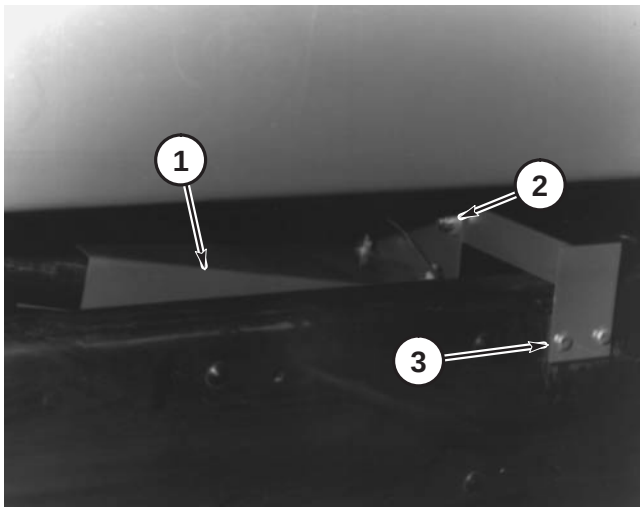
Fig. 9

11. Temporarily Key the Center U-Joint to the other 1-1/2 Drive Shaft. Then, working from both ends, align and position both 1-1/2 Drive Shaft assemblies and the Drive Line Tube, to determine the most direct unobstructed Drive Line connection between truck PTO and Mixer Feeder Chaincase Shaft. Based on obstructions encountered, either or both 1-1/2 Drive Shafts may have to be shortened. Where possible, try to shorten both 1-1/2 Drive Shaft assemblies equally.

NOTE: *The maximum angle of any U-Joint MUST NOT exceed 13°.*

12. With the required position established, clamp the Bearing Mount to the Mount Bracket (temporarily positioned in step 8). Locate and drill the two 17/32" diameter mounting holes in the Mount Bracket. Then, tightly secure the Bearing Mount to the Mount Bracket with (2 each) 1/2 x 1-1/2 CS, P, L and N. BE SURE to keep the Bearing slid all the way onto the Splined Shaft and against the Drive Line Tube. Next, locate and drill the four 13/32" diameter Mount Bracket attachment holes in the truck frame. Then, secure the Mount Bracket {and Spacer Plate(s), if required} to the truck frame with (2 each side) 3/8 x 1-3/4 CS, L & N.

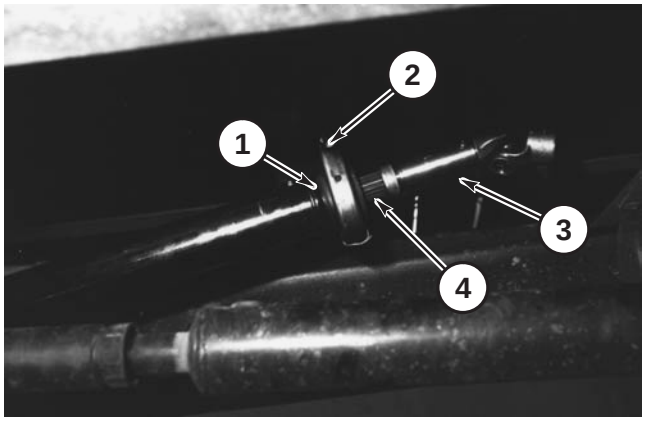
13. With the desired Drive Line routing established, determine where to cut the "NON-KEYED END" of the 1-1/2 Drive Shaft(s). Make sure each Shaft is at least flush or protruding NO more than 1/4" beyond its respective Yoke.



1 – PTO Shield Secured with Same Hardware Used to Attach Bearing to Bearing Mount
2 – Bearing Mount Secured to Front Mount Bracket with (2 each) 1/2 x 1-1/2 CS, P, L & N
3 – Front Mount Bracket Secured to Truck Frame with (2 each) 3/8 x 1-3/4 CS, L & N

Fig. 10

NOTE: *BE SURE to allow from 1 to 1-1/2" of Splined Shaft between the end of the Slip Yoke and the face of the Center Bearing. In addition, allow 1/2" of Splined Shaft between the face of the Ball Shear Joint and face of the Lock Collar on the Chaincase Bearing.*

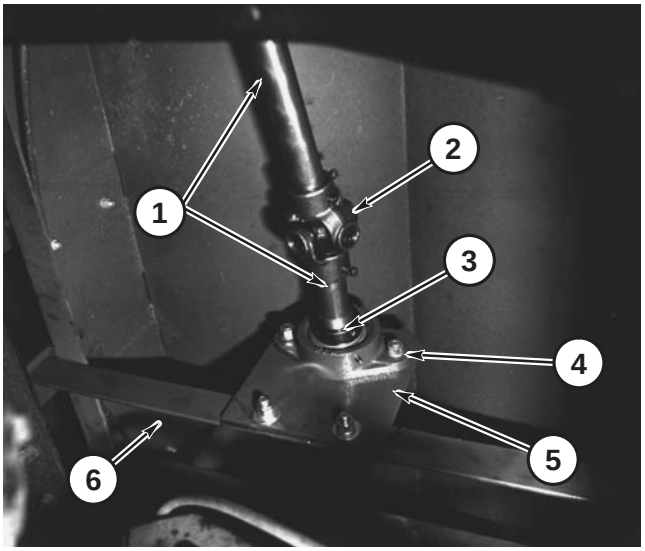


1 – Center Bearing Slid All the Way onto Splined Shaft Against Drive Tube
2 – Center Bearing
3 – Slip Yoke
4 – 1 to 1-1/2" of Exposed Splined Shaft

Fig. 11

14. Cut Shaft(s), as required. Recheck the routing and Shaft-Yoke relationships and shorten, if necessary.

15. Slide the Sleeve over the cutoff end of the rear 1-1/2″ Drive Shaft. Next, slide the Hanger Bearing Plate, the 1-3/4″ Bearing and the Lock Collar over the Sleeve and Shaft. Then, loosely attach the Bearing to the Hanger Bearing Plate with (2 each) 1/2 x 1-1/4 CS, P, L and N.



1 – 1-1/2" Drive Shafts (2)
2 – Center U-Joint
3 – Lock Collar Over Tackwelded Sleeve
4 – Bearing Secured to Hanger Bearing Plate with (2 each) 1/2 x 1-1/4 CS, P, L & N
5 – Hanger Bearing Plate Secured to Rear Mount Bracket with (2 each) 1/2 x 1-1/2 CS, P, L & N
6 – Rear Mount Bracket (Secured to Mixer Feeder Frame)

Fig. 12

16. Loosely assemble all of the Drive Line components and position them between the Drive Line Tube and Chaincase Shaft. Then, properly orient and position the back Mount Bracket in alignment with the Hanger Bearing Plate at a position so that it will be within 1 to 2″ from the end of the Yoke after it has been attached to the rear 1-1/2″ Drive Shaft. Next, drill two 17/32″ diameter holes in the Mount Bracket. Then, tightly secure the Hanger Bearing Plate to the Mount Bracket using (2 each) 1/2 x 1-1/2 CS, P, L and N. Next, locate and drill the four 13/32″ diameter Mount Bracket attachment holes in the Mixer Feeder Frame. Then, secure the Mount Bracket and Spacer Plates to the Frame with (2 each side) 3/8 x 1-3/4 CS, L & N.

17. Position the Sleeve so that it is centered in the Bearing and tackweld the Sleeve to the Drive Shaft.

NOTE: *Where facilities allow, the cutoff ends of the two 1-1/2″ Drive Shafts may be keyed (instead of welded), if desired. In addition, BE SURE to correctly time all four Drive Line U-Joints, before welding or keying the Shafts. (Refer to the "Timing Detail" provided with the Drive Line exploded-view drawing.)*

18. With all of the procedures through step 17 completed, the two 1-1/2″ Drive Shafts can be keyed or welded (using a 1/4″ weld bead completely around the Shafts) to their respective Yokes .

19. Properly orient and attach the PTO Shield over the Bearing Mount using the hardware securing the Bearing to the Bearing Mount. Then, tightly secure all previous loosely attached hardware.

Discharge Conveyor Mounting (See Parts Exploded-view Drawing and Associated Parts List)

NOTE: *Procedures for installing the Discharge Conveyor are the same as for a trailer-mounted Mixer Feeder and covered in the Mixer Feeder Operator's Manual. All of the Hydraulic Hoses are already connected at the factory with the exception of the Discharge Conveyor Hoses. Refer to the exploded-view drawing and proceed as follows:*

20. Connect the Hydraulic Hoses between the Hydraulic Motor and the Elbows in the Ports of the Directional Control Valve. BE SURE to route the Hoses through the Access Hole provided in the Mixer Feeder Frame.

Scale System Mounting & Wiring (Figs. 13 & 14 and see Parts Exploded-view Drawing and Associated Parts List)

The Scale Indicator components are shipped separately. Components MUST be unpackaged and attached to the Mixer Feeder and mounted inside the truck cab. Proceed as follows:

NOTE: *The Junction Box will be located and attached in pre-drilled mounting holes on the front left side of the Mixer Feeder Frame. To facilitate installation, pre-wire the four Weighbar Cords before attaching the Box to the Mixer Feeder Frame. All of the Weighbar Cords MUST remain at their original factory-provided lengths and NOT be shortened; loop and anchor out of the way any ex-*

cess Cord. BE SURE that the Cords, coming from the Weighbars, are routed and anchored away from any moving parts or pinchpoints. Use Cable Clips (provided) to anchor the Cords to the Mixer Feeder Frame at appropriate locations.

21. Remove and retain the Junction Box Cover and attaching hardware.
22. Remove the Compression-type Nuts from the four weather-proof Bulkhead Connectors.
23. Place a Nut onto one of the four Weighbar Cords and route the Cord through the Bulkhead Connector and into the Junction Box. Then, strip-off the coating from each of the five leads and attach it to the appropriate color-coded terminal. BE SURE to connect all five leads from one Weighbar Cord to the same Terminal Block. After all five leads are connected, tighten the Compression-type Nut to form a weather-proof seal.
24. Make the remaining three Weighbar Cord connections into the Junction Box in the same manner described in step 23.
25. Replace the Junction Box Cover and attach it in position on the front left side of the Mixer Feeder Frame in the mounting holes provided.

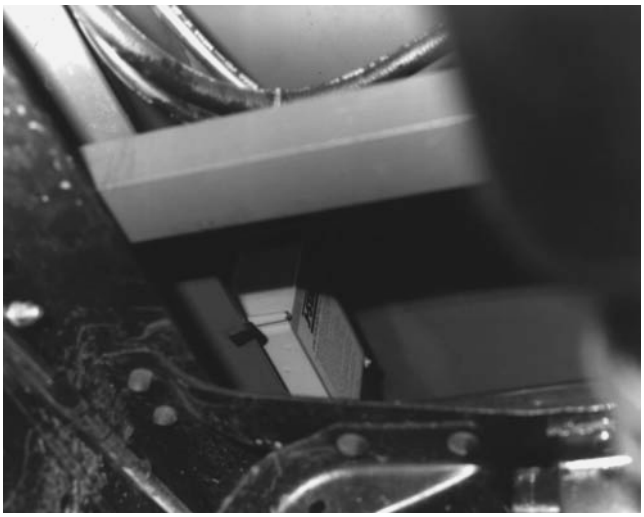
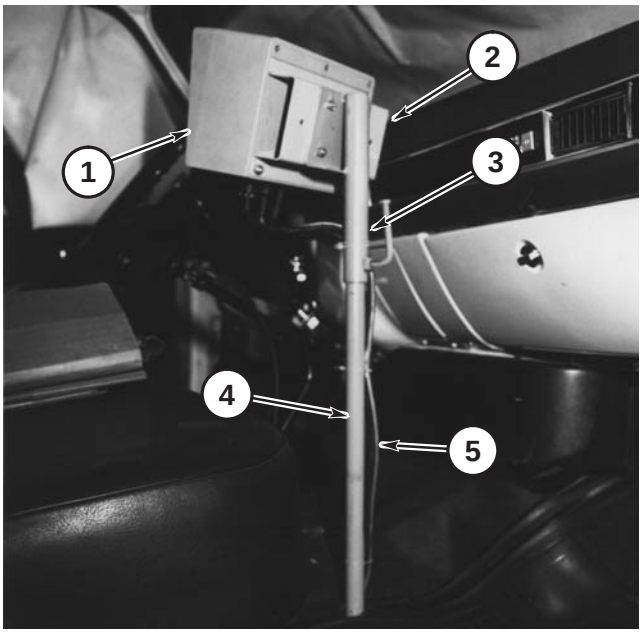


Fig. 13: Junction Box Attached in Pre-drilled Mounting Holes on the Front Left Side of the Mixer Feeder Frame

NOTE: *The cutout, for routing the Load Cell Cord into the truck cab, MUST be smooth (free of burrs or sharp edges) to avoid cutting and damaging the Cord.*

26. Route the Load Cell Cord (existing 5th Cord) from the Junction Box into the truck cab using an existing or field-fabricated, adequately-sized, access hole.
27. Select the desired Scale Indicator mounting location inside the truck cab. Locate and drill the four 13/32″ diameter holes in the truck cab floor for attaching the Stand Base. Then, secure the Stand Base with appropriate 3/8″ diameter hardware (NOT provided).
28. Install the Indicator Stand over the Stand Base and secure it by tightening the Lock Handle. Next, mount the Indicator Mounting Bracket to the Indicator Stand with (4 each) 1/4 x 1/2 CS, L and N. Then, mount the Indicator on the Mounting Bracket with (2 each) #10-24 x 5/8 RHMS and N.
29. Locate a 12 volt D.C. source inside the truck cab. Then, connect the red (+) Power Cord lead to positive (+) and the black (-) Power Cord lead to negative (-).

NOTE: *Only two wires (the red + and the black -) of the four-wire Power Cord are used to make the Scale Indicator to the truck's power connection.*

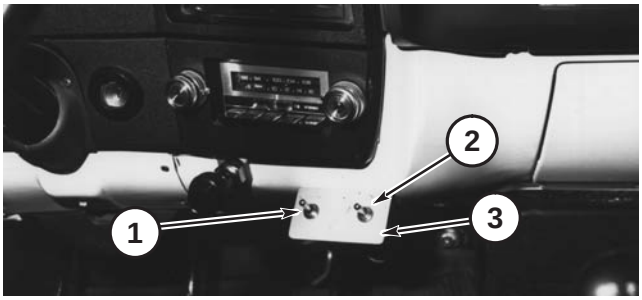


1 – Scale Indicator
2 – Indicator Mounting Bracket
3 – Indicator Stand
4 – Stand Base
5 – Power Cord and Load Cell Cord

Fig. 14

30. Hookup the Power Cord Plug to the Jack labeled "Power" on the Indicator. Hookup the Load Cell Cord Plug to the Jack labeled "Load Cell" on the Indicator. Refer to the Indicator Operator's Manual, turn on the Indicator and test its operation.

Directional Control Valve & Switches Wiring (Figs. 15, 16 & 17 and see Parts Exploded-view Drawing and Associated Parts List)



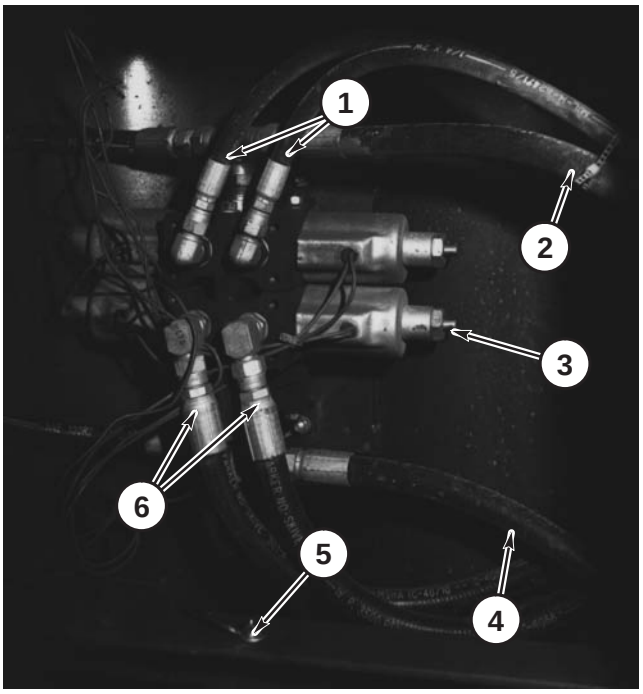
1 – Spring-centered On-Off-On Discharge Door Control Toggle Switch
2 – On-Off-On 3-Position Detent Discharge Conveyor Control Toggle Switch
3 – Switch Mount

Fig. 15: Cab-mounted Directional Control Valve Discharge Door and Discharge Conveyor Control Switches

A Truck-mounted Mixer Feeder uses a Directional Control Solenoid Valve, a cab-mounted On-Off-On Spring-centered Toggle Switch to control operation of the Discharge Door and a cab-mounted On-Off-On Three-position Detent Toggle Switch to control operation of the Discharge Conveyor. Proceed to mount the Switches and make the wiring connections in the following manner:

31. In a conveniently located position in the truck cab, install the Switch Mount using two 1/4″ diameter fasteners (NOT provided).

32. Referring to the drawing provided, make the appropriate wire lead connections to the Directional Control Valve. Next, pass the Switches connection end of the Harness through the same access hole used for routing the Load Cell Cord into the truck cab. Then, route the Harness to the area where the Switch Mount is located.

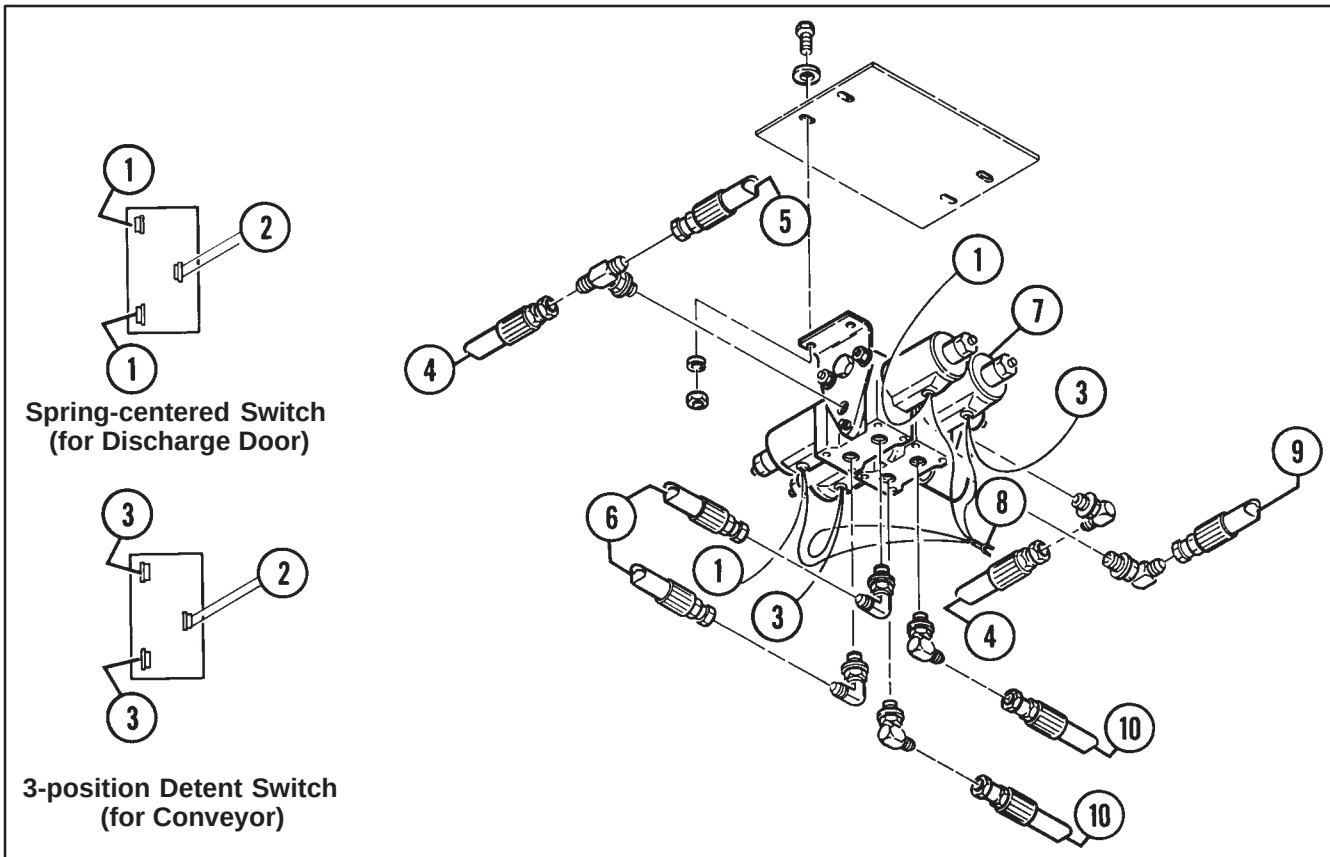


1 – Pair of Hoses to Discharge Door
2 – Return Hose to Filter
3 – Directional Control Valve Assembly
4 – Supply Hose from Pump
5 – Common Wiring Ground
6 – Pair of Hoses to Discharge Conveyor and Motor

Fig. 16: Directional Control Valve

33. Using correct and appropriate electrical procedures, make the proper Harness lead connections to the appropriate Toggle Switches. In addition, make the wiring connections between 12 volts D.C., the In-line 10 Ampere Fuse Holder and the Toggle Switches indicated.

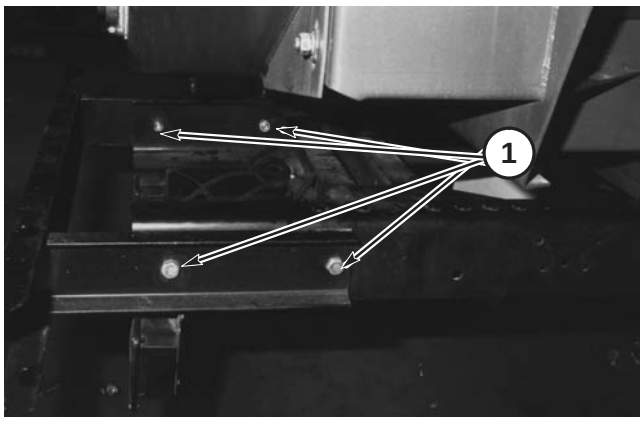
NOTE: *BE SURE to check Wiring Diagram for proper Harness connections to insure correct Switch and Directional Control Valve connections BEFORE applying power. In addition, of the eight (8) total wires coming out of the Directional Control Valve, BE SURE to ground either 1 of the 2 wires, from each end of the Solenoids, to the truck frame.*



1 – Leads from Spring-centered Directional Control Valve Section
2 – Through In-line Fuse to Positive (+) 12 volts D.C.
3 – Leads from 3-position Detent Directional Control Valve Section
4 – Jumper Hose
5 – Return Hose to Filter Assembly
6 – Hoses to Discharge Door Control Cylinder
7 – Directional Control Valve
8 – Ground to Truck Frame (All four Leads)
9 – Supply Hose
10 – Hoses to Discharge Conveyor Motor (And Control Cylinder on 2-piece Conveyor)

Fig. 17

Rear Bumper (Fig. 18 and see Parts Exploded-view Drawing and Associated Parts List)



1 – Field-supplied Attaching Hardware

Fig. 18: Rear Bumper Bolted to Truck Frame

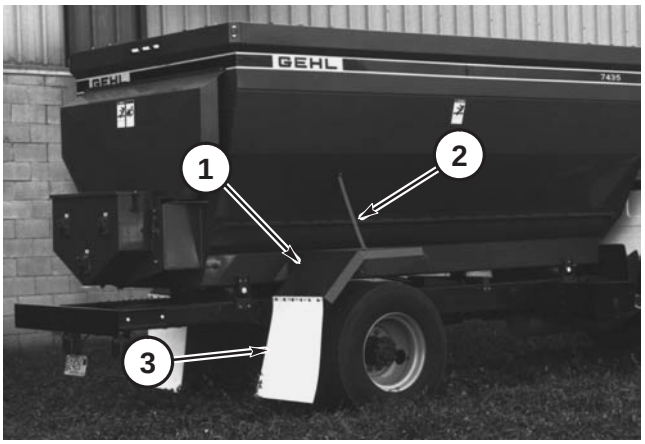
The Rear Bumper is a welded assembly with NO pre-drilled mounting holes. The Bumper should be bolted to the truck frame using field-supplied 1/2″ or larger attaching hardware.

NOTE: *BE SURE that, when installed, Bumper adequately protects the Chaincase from being struck and damaged.*

Fenders & Ladder (Figs. 19 & 20 and see Parts Exploded-view Drawing and Associated Parts List)

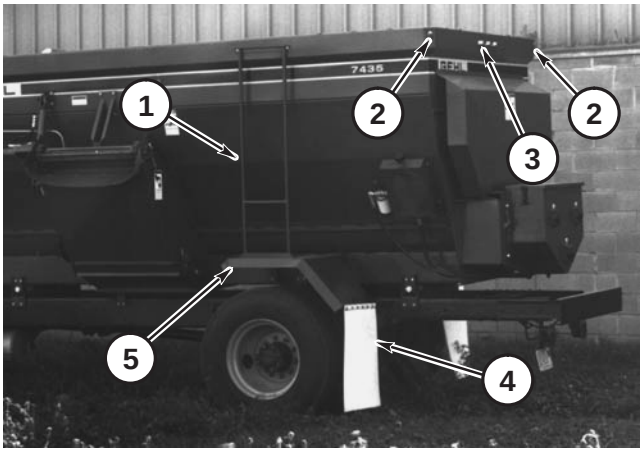
Install the Left and Right Fenders and the Ladder in the following manner:

34. Position and align the Right Fender over the right rear truck tire so that the top of the Fender is flush with the junction of the Auger Trough and Mixer Feeder Frame. Then, mark the four (4) hole positions in the Frame for attachment.



1 – Right Fender
2 – Fender Brace
3 – (Accessory) Mud Flap Secured with (6 each) 3/8 x 1-1/2 CS, P, L and N

Fig. 19



1 – Ladder
2 – (Accessory) Rear Red Running Light
3 – (Accessory) Rear Red Identification Bar
4 – (Accessory) Mud Flap Secured with (6 each) 3/8 x 1-1/2 CS, P, L and N.
5 – Left Fender

Fig. 20

35. Using a 13/32″ diameter bit, drill the four holes in the Mixer Feeder Frame. Properly orient and attach the channel-shaped Fender Mounts to the Frame using (2 each) 3/8 x 1-1/4 CS, L and N. Then, properly orient and attach the Fender to the Fender Mounts using (2 each) 3/8 x 1 CS, L and N.
36. Repeat steps 34 and 35 to attach the Left Fender.
37. Decide whether the Ladder will be mounted on the left side or right side of the Mixer Feeder. Properly orient the Ladder over the Fender. Using pre-drilled holes in the base of the Ladder locate and drill two (2) 13/32″ diameter holes in the top of the Fender making sure that Ladder is straight up and down before drilling holes. Next, loosely attach the bottom of the Ladder to the Fender using (2 each) 3/8 x 3/4 CS, L & N. Next, place the top of the Ladder against the Mixer Feeder Box and locate and drill two (2) 13/32″ diameter mounting holes in the Box. Then, attach the top of the Ladder to the Box with (2 each) 3/8 x 3/4 CS, L & N. Tightly secure all fasteners.
38. On the other Fender (opposite Ladder), loosely attach one end of the Fender Brace to a pre-drilled hole in the rear of the Fender using a 3/8 x 3/4 CS, L & N. Place the Brace against the Mixer Feeder Box and locate and drill a 13/32″ diameter mounting hole in the Box. Then, attach the Brace to the Box with another 3/8 x 3/4 CS, L & N. Tightly secure both fasteners.

Accessory Components

Mud Flaps (See Figs. 19 & 20 and Parts Exploded-view Drawing and Associated Parts List)

Locate and drill six (6) 13/32″ diameter holes in the Mud Flaps and Fenders. Then, secure the Flaps to the Fenders with the (6 each) 3/8 x 1-1/2 CS, P, L and N.

Running Lights (See Figs. 1 & 20 and Parts Exploded-view Drawing and Associated Parts List)

Proceed to install the accessory Light Kit as follows:

NOTE: *All individual Light and Identification Bars assemblies are secured with (2 each) #6-32 x 3/8 STS. The #6-32 x 3/8 STS requires a 1/8″ diameter pilot hole. In addition, a 1/8” diameter wire lead access hole will also have to be drilled at each Light. BE SURE all access holes have NO sharp edges which could damage the wire.*

1. Using the Red Light Identification Bar as a template, locate and drill the mounting and wire access holes at the top center position in the rear of the Mixer Feeder Box as shown. Then, pass the wire through the access hole and attach the Bar with two (2) #6-32 x 3/8 STS.
2. Using the Amber Light Identification Bar as a template, locate and drill the mounting and wire access holes at the top center position in the front

of the Mixer Feeder Box as shown. Then, pass the wire through the access hole and attach the Bar with two (2) #6-32 x 3/8 STS.

3. Using the individual Light assemblies as templates, locate and drill the mounting and wire access holes at all four corner positions around the Mixer Feeder Box. Then, pass each assembly wire lead through its access hole and attach the each assembly with two (2) #6-32 x 3/8 STS.

4. Starting the right rear corner, and using Butt Connectors provided, attach each Light wire lead to a common lead for all six light assemblies. At the right front corner of the Mixer Feeder Box, make the Light assembly wire lead Butt connection to a long length of wire which will be routed into the truck cab. Use the Clips provided to anchor the wire along the inside edge all the way around the Mixer Feeder Box. BE SURE to remove all slack in the wire when anchoring it.

5. At the right front corner of the Mixer Feeder Box, drill an additional 1/8″ diameter wire access hole into the Box in the area just above the end of the welded-on Wiring Tube. Next, route the long length of wire from inside the Box, through the access hole and through the Wiring Tube. Route the wire along the same path as the Directional Control Valve wires and the Load Cell Cord, through the access hole and into the truck cab.

6. Inside the truck cab, use two Butt Connectors to install the In-line Fuse Holder between the Light Kit wire and the light switch of the truck. After all wiring connections are made, install the 10 Ampere Fuse and test the Lights.

OPERATION

General Information

As a Truck-mounted unit, the functions of the Mixer Feeder are the same as explained in the MF7000 Series Operator's Manual. The truck PTO supplies all the power to the Mixer Feeder. When the PTO is engaged, the Mixing Augers, inside the Box, rotate and, the Hydraulic Pump operates to supply oil through the Directional Control Valves. One of the Valves controls oil going to and coming from the Discharge Door Cylinder. The other Valve controls oil going to and coming from the Hydraulic Motor that runs the Conveyor and the Cylinder which raises and lowers it. Each of the Valves is controlled by a Switch inside the truck cab.

Loading

While the Mixer Feeder is being loaded, if material is being slowly put in, the Mixer Feeder should NOT be running until the Box is nearly full. If a large amount of material is being dumped in by a loader bucket, the Mixer Feeder should be running while the material is added.

Mixing

With the truck engine at low idle speed, engage the PTO to start the Augers rotating. Increase the truck engine speed until it can adequately mix the load. **Do NOT OVERSPEED**! Input speed to the Mixer Feeder Chaincase should NOT exceed 1000 RPM. Completely familiarize yourself with the operation of the Truck-mounted Mixer Feeder.

NOTE: *To avoid damage to the Drive Line, do NOT engage the PTO drive with the engine running at high RPM.*

ADJUSTMENTS

All of the adjustments covered in the MF7000 Series Operator's Manual apply to Truck-mounted Mixer Feeders. In addition, the Hydraulic Pump Drive Chain tension MUST also be checked and adjusted, as necessary. The procedure for the Pump Drive Chain tension adjustment is similar to the information under the "Planetary Gearcase Drive Chains" topic in the Adjustments chapter of the 7000 Series Operator's Manual.

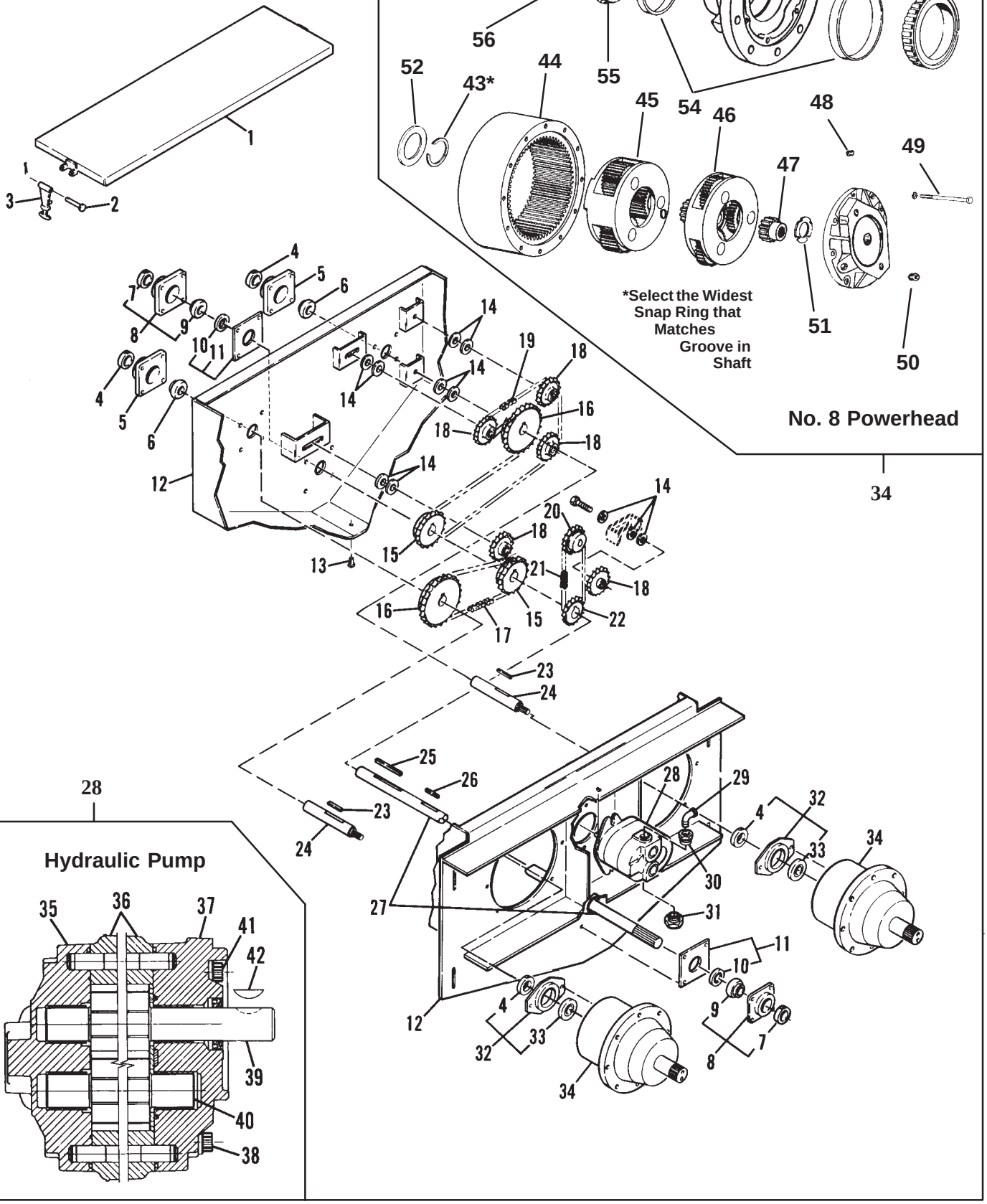
LUBRICATION

Perform all of the points of lubrication referred to in the 7000 Series Operator's Manual. The Drive Line has additional Grease Fittings on all four (4) Cross Kits and one (1) Grease Fitting on the Slip Yoke connected to the Drive Line Tube.

In addition, the Hydraulic Reservoir MUST be checked daily, using the Dipstick provided, and maintained at the level indicated by the Upper Mark on the Dipstick.

NOTE: *When checking the Hydraulic Reservoir Oil level, BE SURE to have the Discharge Door all the way open and the Discharge Conveyor completely raised, to fully retract both hydraulic Cylinders and create the lowest oil volume in the system and to avoid overfilling the Reservoir.*

Truck-mounted Mixer Feeder Chaincase



Ref. No.	Part No.	Description	Qty. Req.
01	092740	CHAIN CASE COVER	1
02	092665	PIN CLEVIS 3/16X1–5/8	2
	650590	PIN/COTTER 1/16X1/2	2
03	091899	RUBBER HOOK	2
04	520153	COLLAR/BEARING LOCK	4
05	R13062	HOUSING/BEARING	2
	570014	FITTING/GREASE	2
	650569	CS 1/2X1–3/4 (N,L)	8
06	069387	BEARING/BALL	2
07	076082	COLLAR/BEARING LOCK	2
08	091912	FLANGED BEARING	2
	570014	FITTING/GREASE	2
	650569	CS 1/2X1–3/4 (N,L)	8
09	083666	BEARING	2
10	091884	OIL SEAL	2
11	092735	SEAL PLATE ASSY	2
12	092741	CHAIN CASE	1
	650163	CS 3/4X1–3/4 (N,L,P)	4
13	660004	PLUG/PIPE 1/2	1
14	654012	SHIM WASHER	13
15	092695	SPROCKET 21T	2
16	092696	SPROCKET 30T	2
17	058265	CHAIN (#60) OF 67 LINKS INCLUDING ONE 500160 PLAIN & ONE 5000161 OFFSET CONNECTOR	1
18	056845	SPROCKET IDLER 15T	5
	650710	CS 5/8X2–1/4 (N,L)	5
19	091890	CHAIN (#60) OF 110 LINKSINCLUDING ONE 500160 PLAIN CONNECTOR	1
20	110224	SPROCKET 15T	1
21	110242	CHAIN (#60) OF 45 LINKSINCLUDING ONE 500160 PLAINCONNECTOR & ONE 500161OFFSET CONNECTOR	1
22	110223	SPROCKET 15T	1
23	009476	KEY 5/16 SQ. X 1–1/4	2
24	094926	DRIVE SHAFT–PWR HD DR	2
25	092734	KEY 3/8 SQ. X 3	1
26	H6098A	KEY 3/8 SQ. X 1–1/2	1
27	097636	INPUT SHAFT	1
28	124524[a]	HYDRAULIC PUMP	1
	655538	KEY/WOODRUFF 1/4X7/8	1
	650569	CS 1/2X1–3/4 (N,L,P)	2
29	660020	STREET ELBOW 3/4 NPT	1
30	110225	FEMALE PIPE ADPT 1–5/16 TO 3/4	1
31	110226	FEMALE PIPE ADPT 1–5/16 TO 1/2 (EARLY STYLE)	1
	660118	FEMALE PIPE ADPT 7/8 TO 1/2 (LATER STYLE)	1
32	092658	BEARING PLATE ASSY	2
	650494	CS 1/2X1 (L)	4
33	520208	BEARING CYLINDRICAL	2
34	092742	POWERHEAD NO. 8	2
	651232	CS 9/16X1–3/4 (N,L)	16

Hydraulic Pump Components

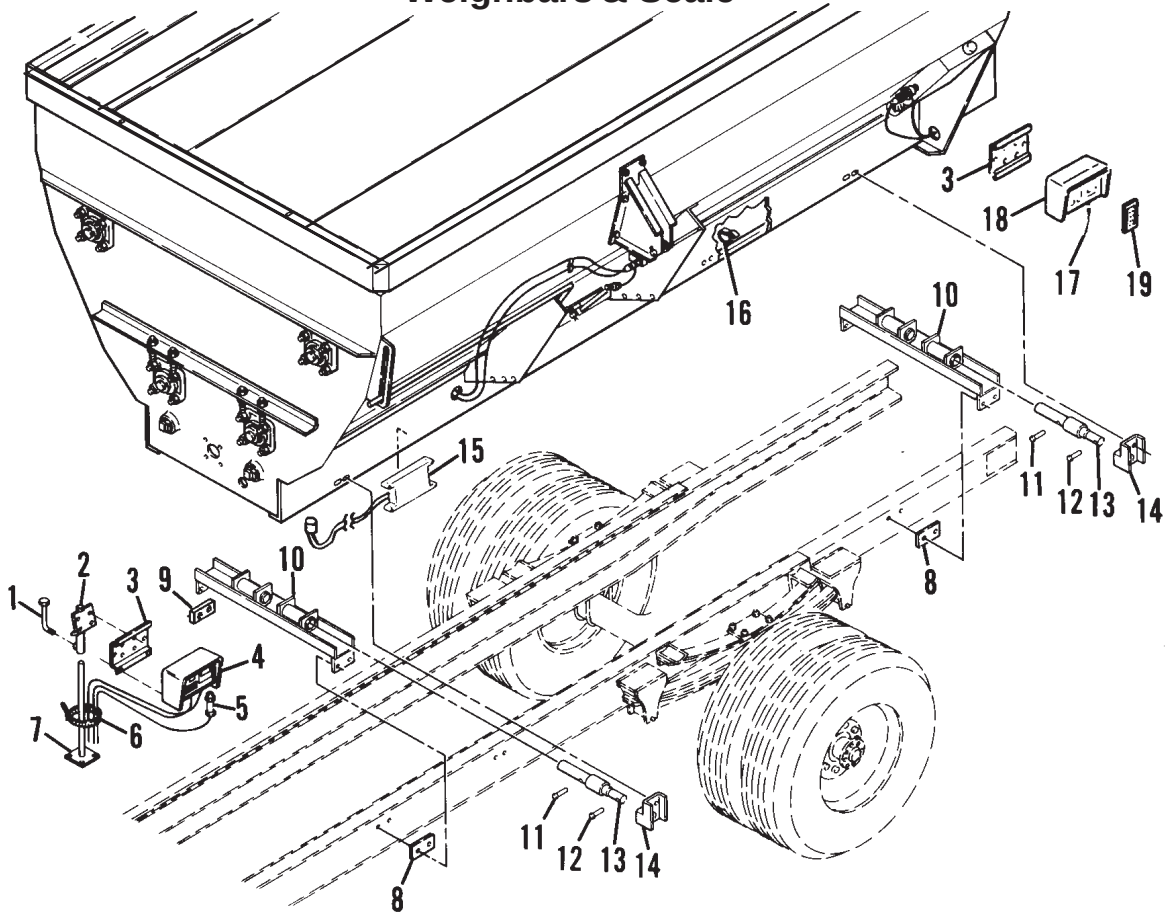
35	099098	BACKPLATE ASS'Y	1
36	099027	BODY ASS'Y	1
37	080819	FRONTPLATE ASS'Y	1
38	080823	CAP SCREW	4
39	099028	DRIVE GEAR ASS'Y	1
40	099029	IDLER GEAR ASS'Y	1
41	099030	CAP SCREW	4
42	655538	KEY/WOODRUFF 1/4X7/8	1

No. 8 Powerhead Components

43	092938	KIT/RETAINER	1
44	092934	RING GEAR	1
45	092937	ASSY/CARRIER SECONDARY	1
46	092936	ASSY/CARRIER PRIMARY	1
47	092935	SUN GEAR	1
48	660004	PLUG/PIPE 1/2–14	1
49	650605	CS 3/8–16X5–1/2	12
50	057569	PLUG/MAGNETIC PIPE	1
51	080303	THRUST WASHER	1
52	110489	THRUST WASHER	1
53	078945	BEARING/CONE	1
54	078946	BEARING/CUP	2
55	010-32292	BEARING CONE	1
56	094376	SEAL/OIL	1

a) For Seal Kit Order Part Number 080825

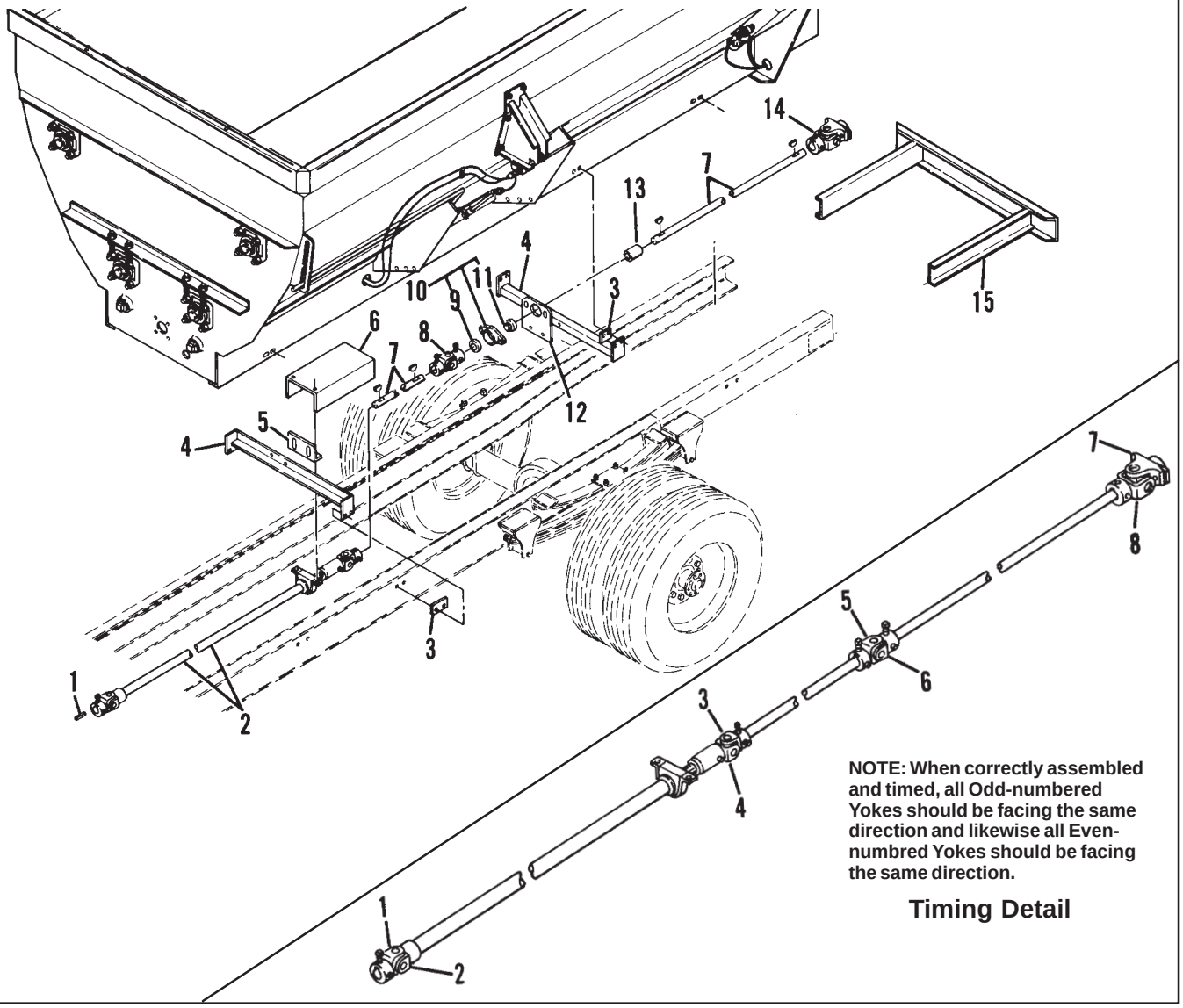
Weighbars & Scale



Ref. No.	Part No.	Description	Qty. Req.
01	053645	SCREW/ADJUSTMENT	1
02	110784	STAND/INDICATOR	1
03	092684	BRACKET/INDICATOR MOUNTING	AR
	650542	CS 1/4 X 1/2 (N, L)	AR
04	112520	INDICATOR/MODEL 3200	1
	650815	RHMS #10–24 X 5/8 (N)	2
05	110218	CORD/POWER INDICATOR	1
06	074091	TIE/NYLON	AR
07	110782	BASE/STAND	1
08	110234	SHIM PLATE – 1/4" THICK	AR
09	110235	SHIM PLATE – 1/8" THICK	AR
10	110240	WEIGHBAR MOUNT	2
	650335	CS 1/2X1–3/4 GR. 8 (N,L)	8
11	604494	PIN CLEVIS 3/8 X 2–3/4	4
	655006	PIN COTTER 1/8 X 1	4
12	076102	PIN CLEVIS 3/8 X 2–1/4	4
	655006	PIN COTTER 1/8 X 1	4
13	099238	2–1/8 WEIGHBAR 21' CABLE	4
14	099210	WEIGHBAR BRACKET	4
	650335	CS 1/2X1–3/4 GR. 8 (N,L,P)	8
15	092679	BOX/JUNCTION W/15' CORD (4) #10L, P	1
16	092675	CLIP – CABLE, FRAME	AR
17	092796	CABLE/INDICATOR TO REMOTE (OPTIONAL)	1
18	092795	REMOTE/INDICATOR MODEL 20R (OPTIONAL)	1
19	092988[a]	TRANSMITTER/WIRELESS	1

a) Included with 092795 Remote.

Mixer Feeder & Truck Drive Line & Rear Bumper

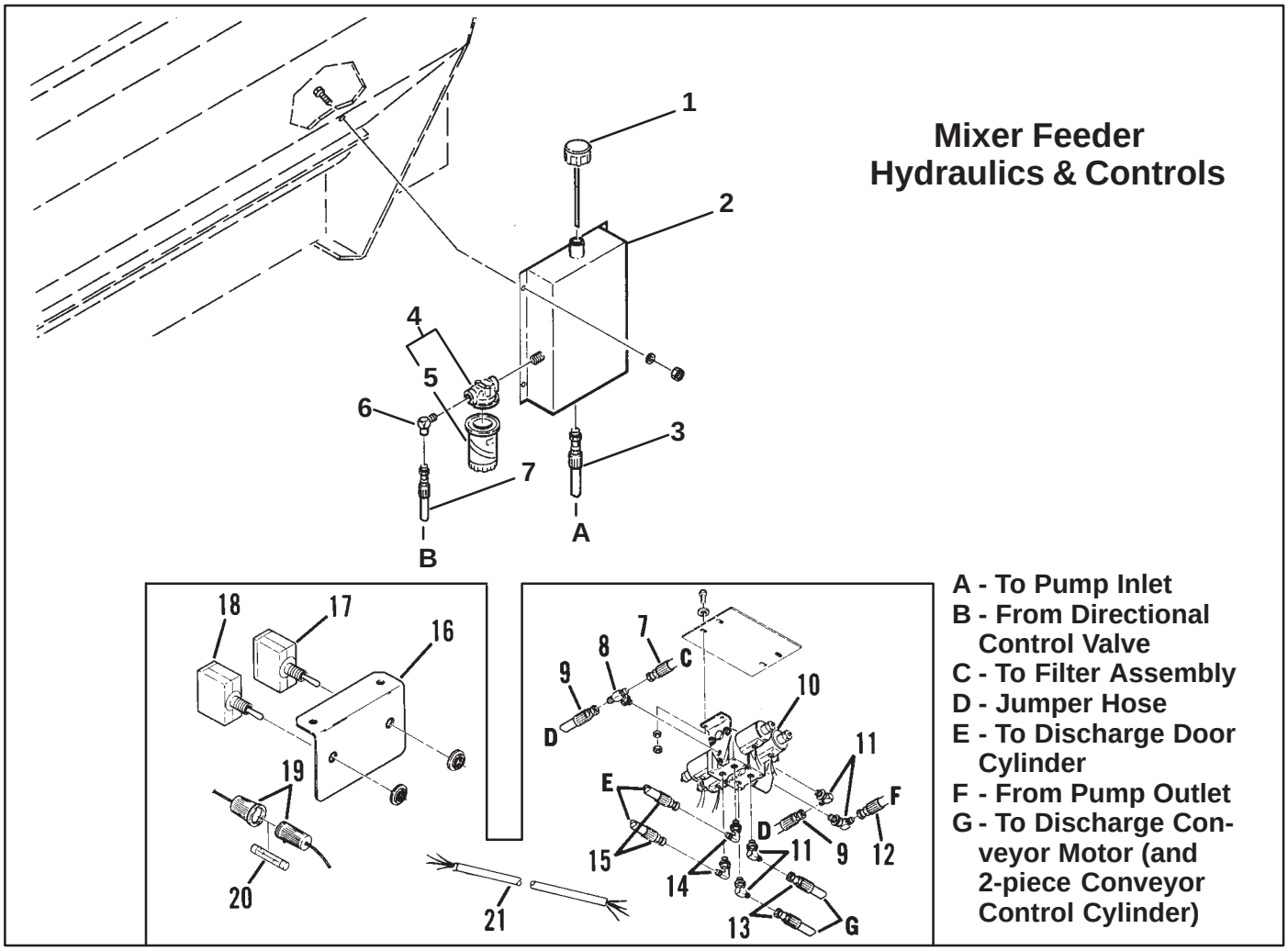


NOTE: When correctly assembled and timed, all Odd-numbered Yokes should be facing the same direction and likewise all Even-numbred Yokes should be facing the same direction.

Timing Detail

Ref. No.	Part No.	Description	Qty. Req.
01	009476	KEY 5/16 SQ X 1–1/4	1
02	110778 A	DRIVE LINE ASSY	1
03	110768	SPACER PLATE 1/4" THICK	AR
04	110781	MOUNT BRACKET	2
	650579	CS 3/8X1–3/4 (N,L)	8
05	110780	BEARING MOUNT	1
	650495	CS 1/2X1–1/4 (N,L,P)	4
06	110237	PTO SHIELD – TM	1
07	110779	DRIVE SHAFT	2
	650601	KEY WOODRUFF 3/8 X 1–1/2	4
08	110770[a]	CENTER U–JOINT ASSY	1
09	520195	COLLAR/BEARING LOCK	1
10	091891	BEARING/FLANGED 1 3/4 BORE	1
	570014	FITTING/GREASE	1
	650453	CS 1/2X1–1/2 (N,L,P)	2
11	520194	BEARING 1–3/4	1
12	092748	PLATE– HANGER BEARING	1
	650495	CS 1/2X1–1/4 (N,L,P)	2
13	092747	SLEEVE	1
14	110485 NO TAG	BALL SHEAR JOINT 1000 RPM	1
15	110238	BUMPER	1

a) NOT available as complete assembly. For components, see separate breakdown drawing.



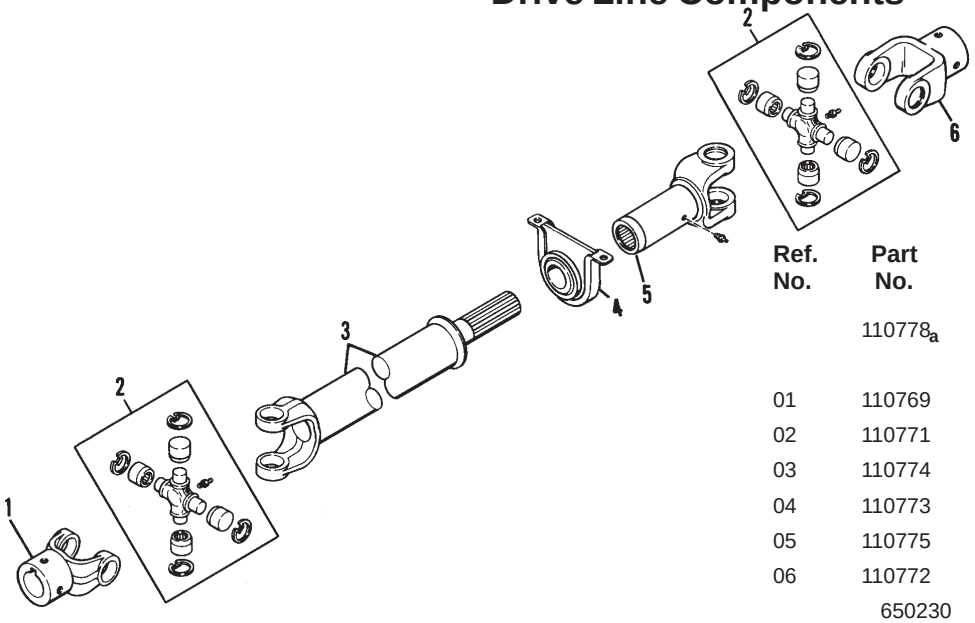
Mixer Feeder Hydraulics & Controls

A - To Pump Inlet
B - From Directional Control Valve
C - To Filter Assembly
D - Jumper Hose
E - To Discharge Door Cylinder
F - From Pump Outlet
G - To Discharge Conveyor Motor (and 2-piece Conveyor Control Cylinder)

Ref. No.	Part No.	Description	Qty. Req.
01	110228	AIR BREATHER W/DIPSTICK	1
02	110239	OIL RESERVOIR	1
	650060	CS 3/8X1 (N,L)	4
03	110230	HOSE 60" LONG	1
04	064654	FILTER/HEAD ASSY	1
05	048959	ELEMENT/OIL FILTER	1
06	660014	ELBOW REDUCER–90 DEG	1
07	110247	HOSE 185" LONG (7285/7335)	1
	110229	HOSE 209" LONG (7435/7500)	1
08	110216	TEE	1
09	110233	HOSE 30" LONG	1
10	110220[a]	DIRECTIONAL CONTROL VALVE	1
	650487	CS 5/16X1 (N,L,P)	4
11	110217	ELBOW	4
12	110248	HOSE 148" LONG (7285/7335)	1
	110232	HOSE 172" LONG (7435/7500)	1
13	110849	HOSE 30" LONG (1–PCS CONVEYOR)	2
	110850	HOSE 87" LONG (2–PCS CONVEYOR)	2
14	110227	ELBOW	2
15	110231	HOSE 87" LONG	2
16	110783	SWITCH MOUNT	1
17	110221	DETENT SWITCH	1
18	110222	SPRING CENTERED SWITCH	1
19	110219	INLINE FUSE HOLDER	1
20	076056	FUSE 10 AMPERE	1
21	111068	ELECTRICAL CABLE 25 FT	1

a) For service as required, order Solenoid 116690, Shim 116691and/or Seal Kit 116692.

Drive Line Components



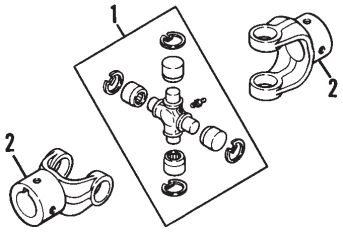
Ref. No.	Part No.	Description	Qty. Req.
	110778[a]	DRIVE LINE ASSY	1
		CONSISTS OF:	
01	110769	YOKE/END 1–1/4	1
02	110771	KIT/CROSS	2
03	110774	TUBE/DRIVE LINE	1
04	110773	BEARING/CENTER	1
05	110775	YOKE/SLIP	1
06	110772	YOKE/END 1–1/2	1
	650230	SQHSS 3/8X3/4	3

a) Complete assembly NOT available for service.

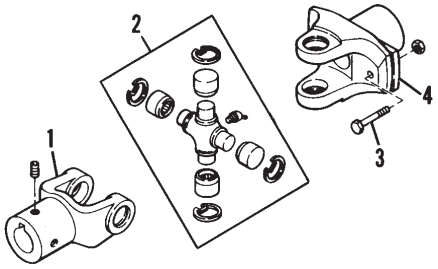
Center U-Joint Components

Ref. No.	Part No.	Description	Qty. Req.
	110770[a]	CENTER U–JOINT ASSY	1
		CONSISTS OF:	
		CONSISTS OF:	
01	110771	KIT/CROSS	1
02	110772	YOKE/END 1–1/2	2
	110778	DRIVE LINE ASSY	1
	650230	SQHSS 3/8X3/4	4

a) Complete assembly NOT available for service.



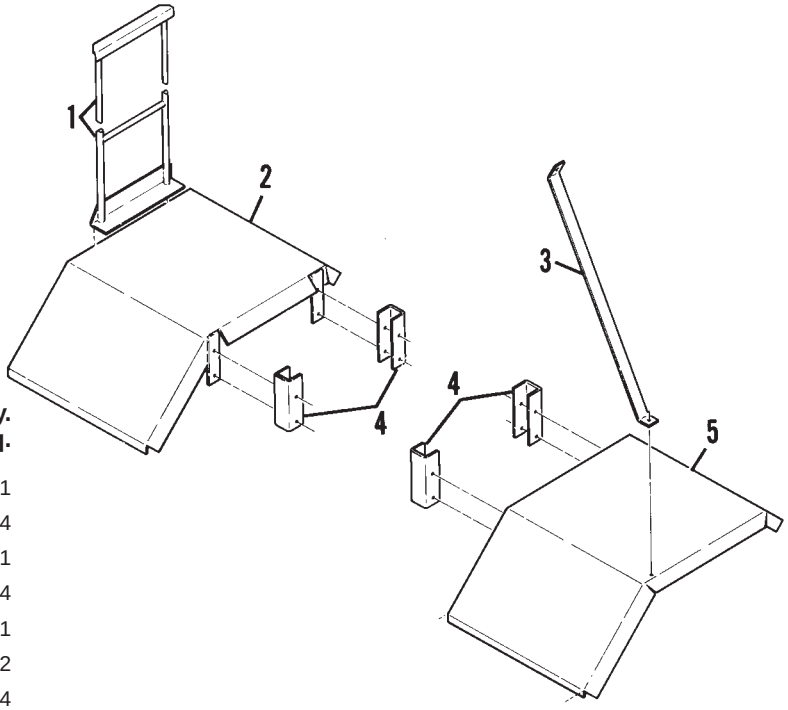
Ball Shear Joint Components



Ref. No.	Part No.	Description	Qty. Req.
	110485[a]	BALL SHEAR JOINT 1000 RPM	1
		CONSISTS OF:	
01	081507	YOKE/END 1–1/2	1
02	045327	KIT/CROSS	1
03	080452[b]	SHEAR BOLT 1/4X2 GR.5	1
		(1) 1/4 LN	
04	110484	YOKE/BALL SHEAR	1

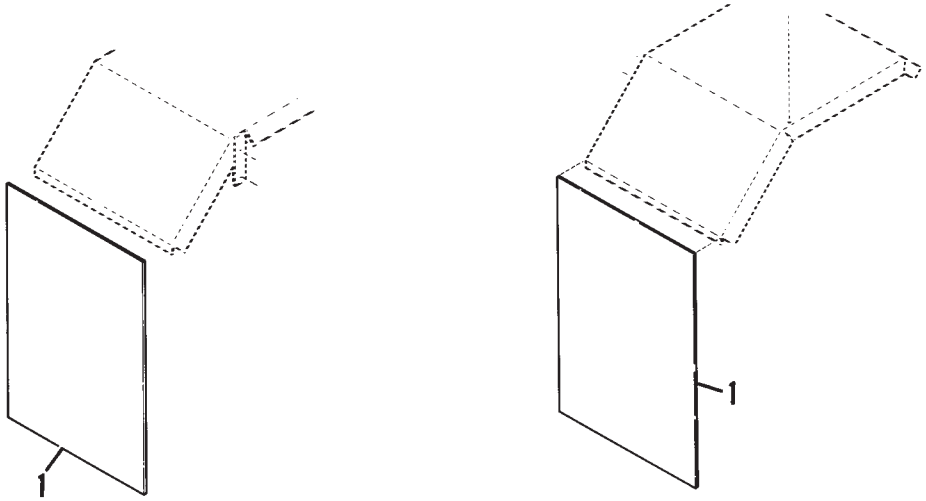
a) Complete assembly NOT available for service.
b) For replacement Shear Bolts, order Kit 080453 Kit containing 8 Shear Bolts & LN.

Truck-mounted Mixer Feeder Fenders & Ladder



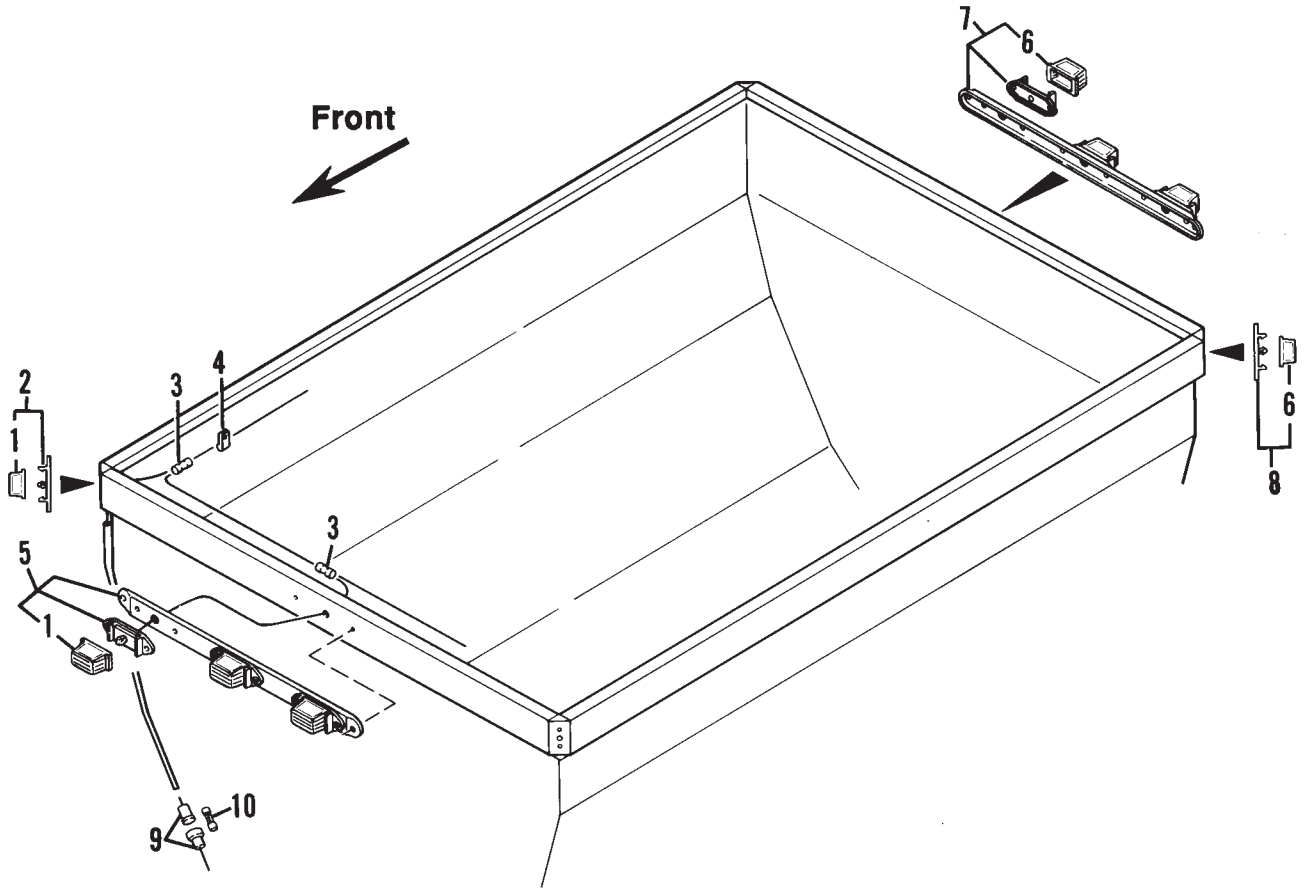
Ref. No.	Part No.	Description	Qty. Req.
01	111070	LADDER	1
	650488	CS 3/8X3/4 (N,L)	4
02	110417	FENDER LEFT TM	1
	650060	CS 3/8X1 (N,L)	4
03	110419	FENDER BRACE TM	1
	650488	CS 3/8X3/4 (N,L)	2
04	110420	MOUNT – FENDER	4
	650491	CS 3/8X1–1/4 (N,L)	8
05	110418	FENDER RIGHT TM	1
	650060	CS 3/8X1 (N,L)	4

Accessory Truck-mounted Mixer Feeder Mud Flaps



Ref. No.	Part No.	Description	Qty. Req.
	804580	MUD FLAPS	1
		CONSISTS OF:	
01	110421	MUD FLAP 24 X 36	2
	650533	CS 3/8X1–1/2 (N,L,P)	12

Accessory Truck-mounted Mixer Feeder Light Kit



Ref. No.	Part No.	Description	Qty. Req.
	804578[a]	LIGHT KIT	1
		CONSISTS OF:	
		CONSISTS OF:	
01	110423	LENS/MINI–LITE – AMBER	5
02	110415	MINI–LITE – AMBER	2
	650702	STS #6–32X3/8	4
03	071105	BUTT CONNECTOR	AR
04	110416	CLIP	AR
05	110412	IDENTIFICATION BAR–AMBER	1
	650702	STS #6–32X3/8	2
06	110422	LENS/MINI–LITE – RED	3
07	110413	IDENTIFICAITON BAR–RED	1
	650702	STS #6–32X3/8	2
08	110414	MINI–LITE – RED	2
	650702	STS #6–32X3/8	4
09	110219	INLINE FUSE HOLDER	1
10	076056	FUSE 10AMP	1

a)100 feet of 16 AWG Wire is included with field–installation Kit.

Notes

Notes

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