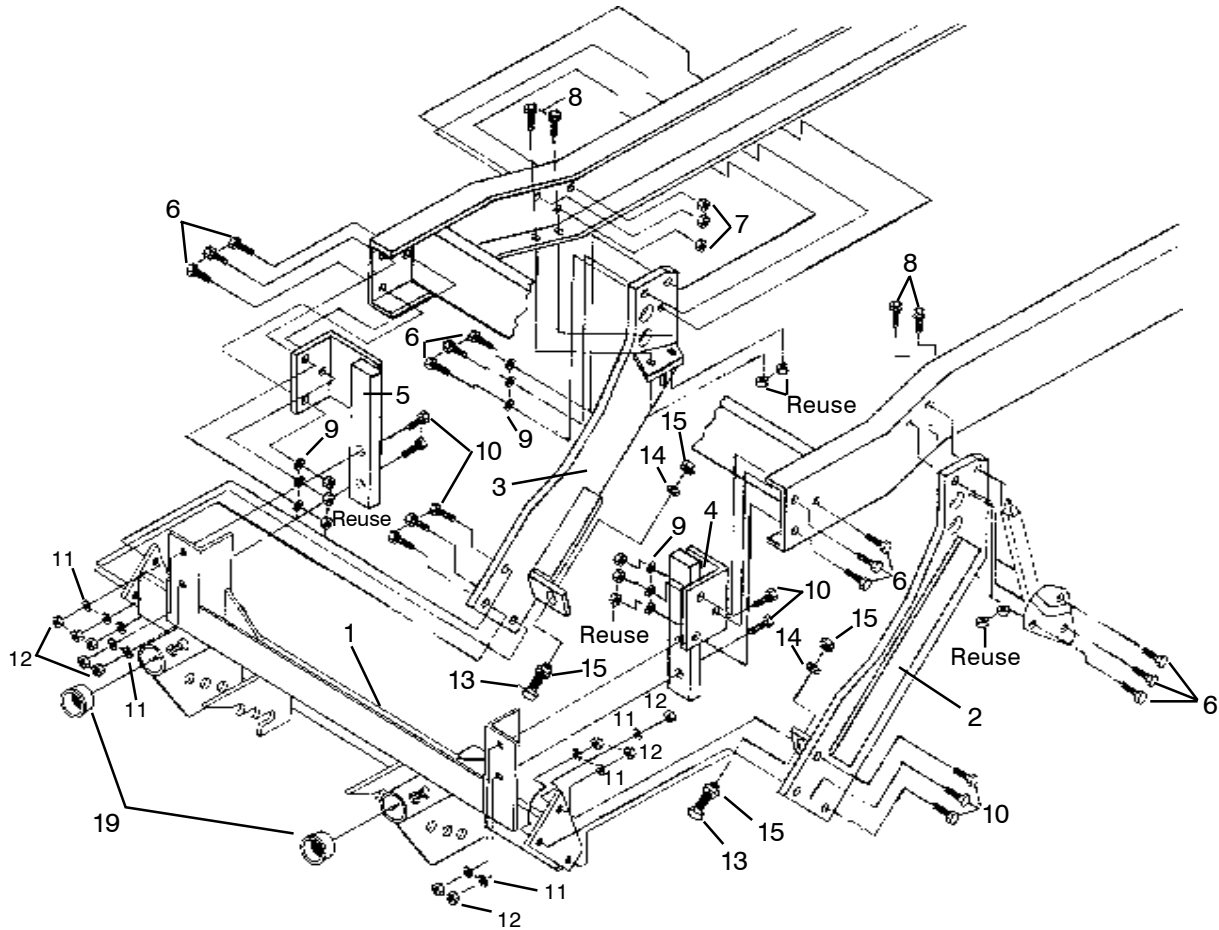


PARTS & INSTALLATION INSTRUCTIONS FRAME ATTACHMENT KIT 1998 - MITSUBISHI / FUSO FG 4x4



| Item | Part No. | Description | Qty. | Item | Part No. | Description | Qty. |
|------|-------------|---------------------------|------|------|---------------|---------------------------|------|
| 1 | *815000 073 | Front Mounting Frame | 1 | 11 | * 20329 | 1/2"- Lockwasher | 10 |
| 2 | 80235 | Pusharm, DR Side | 1 | 12 | * 8501001 009 | 1/2"-13 Nut | 10 |
| 3 | 80236 | Pusharm, PS Side | 1 | 13 | * 20166 | 3/4"-10 x 2-1/2" Capscrew | 2 |
| 4 | 80237 | Front Hanger, DR Side | 1 | 14 | * 20333 | 3/4" Lockwasher | 2 |
| 5 | 80238 | Front Hanger, PS Side | 1 | 15 | * 8501003 015 | 3/4"-10 Jam Nut | 4 |
| 6 | * 22079 | M10 -1.25 x 35 Capscrew | 12 | 16 | 07074 | Power Cable | 1 |
| 7 | * 22177 | M10 -1.25 Nut | 3 | 17 | 07075 | Ground Cable | 1 |
| 8 | * 22138 | M12 -1.25 x 40 Capscrew | 4 | 18 | 819000 013 | Release Hook | 1 |
| 9 | * 20353 | 3/8" Flatwasher | 12 | 19 | 815000 146 | Rec. Tube End Cap | 2 |
| 10 | * 20095 | 1/2"-13 x 1-1/2" Capscrew | 10 | | | | |

* Items Packed in 80239 Bolt Bag

When ordering parts, furnish Part No., Name, and Description. Also furnish Vehicle Model and Year. Type of Hydraulic Unit and Blade Size.

Diamond Equipment reserves the right, under its continuing product improvement program, to change construction or design details, specifications and prices without notice or without incurring any obligation.

CAUTION: This snow removal equipment should be mounted only on vehicles that are equipped with the vehicle manufacturer optional snow plow preparation package.

Mounting snow removal equipment on a vehicle that the vehicle manufacturer does not recommend for snowplowing could damage the vehicle, impair operation and control of the vehicle, and / or may void the new vehicle warranty. Snow Plow Preparation Package information is available from vehicle manufacturers and new vehicle dealers.

GENERAL INSTRUCTIONS:

Disconnect the vehicle battery or batteries before beginning installation (re-connect after installation is complete).

Note: A longer power cable (16) and ground cable (17) have been included in this kit to be used in place of the power cable and ground cable in the "out front electric hydraulic kit" These longer cables are necessary to reach the vehicle batteries.

Do not burn holes into or weld pieces onto the vehicle frame. Use extreme caution when drilling any holes in the vehicle to prevent damage to brake lines, fuel lines, wiring, or any other vehicle components. Assemble Parts and fasteners "finger tight" until instructions indicate final tightening. After first usage and periodically thereafter, re-tighten all fasteners to correct torque.

NOTE

Fasteners should be torqued to:

- 10mm - 1.25 GRADE 8.836 ft. lbs.
- 12mm - 1.25 GRADE 8.864 ft. lbs.
- 1/2"-13 GRADE 575 ft. lbs.
- 3/4"-10 GRADE 5150 ft. lbs.

1. **PRELIMINARY :** Screw a 3/4"-10 jam nut (15) all the way on to each of the 3/4"-10 X 2-1/2" capscrews (13). Place each of the 3/4"-10 X 2-1/2" capscrew / jam nut assemblies through the hole in the lower front ear of the driver's side and passenger's side push arms

(2),(3), with the heads of the capscrews (13) toward the front of the vehicle. Fasten with a 3/4" lockwasher (14) and 3/4"-10 jam nut (15) on each capscrew (13).

- 2. **FRONT HANGERS:** Remove and discard the three 10mm bolts holding each vehicle bumper bracket to the frame rails. Save the 10mm-1.25 nuts for later use. Place the driver's side front hanger (4) and the passenger's side front hanger (5) onto the inside surface of its respective frame rail. Attach using three 10mm -1.25 x 35mm Capscrews (6) and 3/8" flatwashers (9) through each front hanger, frame rail, and bumper bracket. Fasten using the original equipment 10mm - 1.25 nuts removed earlier.
- 3. **DRIVER'S SIDE PUSH ARM:** Tilt the vehicle cab forward and assemble a temporary cab prop to hold cab up and also to prevent it from tilting too far forward. Remove and discard the three 10mm bolts holding the original cab prop bracket to the driver's side frame rail. Place a jack under the driver's side end of the radiator support cross member to hold it against the frame rail. Remove the two 12mm bolts and nuts holding the driver's side end of the radiator support cross member to the frame rail. Discard the 12mm bolts - save the 12mm-1.25 nuts for later use. Install the driver's side push arm (2) onto the outside of the frame rail with the three small holes in the push arm lined up with the three holes in the frame rail that the cab prop bracket bolts were removed from. Fasten the cab prop bracket and rear vertical section of the push arm to the frame rail using three 10mm-1.25 x 35mm capscrews (6) and 3/8" flatwashers (9). Place two 12mm-1.25 x 40mm capscrews (8) down through the holes in the bottom flange of the frame rail, radiator support cross member, and horizontal bolting section of the push arm. Fasten using the original equipment 12mm-1.25 nuts removed previously. Remove the jack from under the radiator support cross member.
- 4. **PASSENGER'S SIDE PUSH ARM:** Place a jack under the passenger's side end of the radiator support cross member to hold it against the frame rail. Remove the two 12mm bolts and nuts holding the passenger's side

end of the radiator support cross member to the frame rail. Discard the 12mm bolts - save the 12mm-1.25 nuts for later use. Install the passenger's side push arm (3) onto the outside of the frame rail with the three small holes in the rear section of the push arm lined up with the three large holes in the vertical surface of the rail. Fasten using three 10mm-1.25 x 35mm capscrews (6), 3/8" flatwashers (9) and 10mm-1.25 nuts (7). Place two 12mm-1.25 x 40mm capscrews (8) down through the holes in the bottom flange of the frame rail, radiator support cross member, and horizontal bolting section of the push arm. Fasten using original equipment 12mm-1.25 nuts removed earlier. Remove the jack from under the radiator support cross member.

5. **MOUNTING FRAME:** Place the upright hanger angles of the mounting frame (1) up in front of the vertical bars of the front hangers (4) & (5) with the lower end plates of the push angle on the mounting frame (1) between the two push arms (2) & (3). Fasten the mounting frame (1) to the front hangers (4) & (5) using four 1/2"-13 x 1 1/2" capscrews (10), 1/2" lockwashers (11), and 1/2"-13 nuts (12). Line up the three holes in the front section of each push arm (2) & (3) with the holes in the end plates of the push angle on the mounting frame (1). Fasten each of the push arms (2) & (3) to the mounting frame (1) using three 1/2"-13 x 1-1/2" capscrews (10), 1/2" lockwashers (11), and 1/2"-13 nuts (12).
6. **FASTENERS:** Tighten all the 10mm, 12mm, and 1/2" fasteners installed into the push arms (2) & (3), mounting frame (1), front hangers (3) & (4) and vehicle frame to the specified torques. Remove the temporary cab prop that was assembled earlier. Adjust the 3/4" capscrews (13) with the 3/4" jam nuts (15) so that the heads of the capscrews are tight against the push angles of the mounting frame. Lock the 3/4" capscrews (13) in place using the rear jam nuts (15).
7. **LIFT FRAME:** Clean paint and burrs from the outside tube ends of the lift frame and the inside surfaces of the receiver tubes of the front mounting frame (1). **SPECIAL NOTE:**

Liberally coat the entire tube ends of the lift frame, the inside surfaces of the receiver tubes and threads of the slack adjusting bolts on the receiver tubes with chassis or anti-seize lubricant. Back off the slack adjusting bolts on the receiver tubes until they no longer protrude inside the tubes. Slide the lift frame into the receiver tubes of the front mounting frame (1) until the

fastening holes line up. Tighten the slack adjusting bolts on the receiver tubes until the lift frame will just slide in and out of the receiver tubes. Secure the lift frame to the front mounting frame using 5/8" hinge pins (26) and hairpin cotters (27).

8. **LIFT ARM:** Install the lift arm (24) and lift cylinder or electric hydraulic unit onto the lift frame using the 5/8"-11 X 5 1/2" capscrew (25) through the upper lift frame ears and the rear lift arm hole. Place a 5/8"-11 X 4-3/4" capscrew through the front lift arm hole and the ram end of the lift cylinder or electric hydraulic unit. Place a 5/8"-11 X 3-1/4" capscrew through the lower lift frame ears and stationary end of the lift cylinder or electric hydraulic unit. Fasten the three 5/8"-11 capscrews using three 5/8"-11 locknuts (32).
9. **LIFT CHAIN:** Attach each end of the lift chain (40) to the two holes in each of the diagonal braces of the push frame using 7/16" -14 "U" bolts (41), 7/16" lockwashers (43), and 7/16"-14 nuts (42).
10. **PUSH FRAME:** Install the push frame onto the plow blade with the upper and lower pivot holes lined up with the pivot holes in the back of the plow blade. Insert the shorter pivot pin (36) down through the upper pivot holes. Insert the longer pivot pin (39) down through the lower pivot holes. Secure the pivot pins (36),(39) using 1/4" X 2" cotter pins (23).
11. **ANGLE CYLINDERS:** Install the angle cylinders between the push frame and the ears on the back side of the plow blade with the rod end of the cylinders toward the plow blade. The elbows in the ports of the angle cylinders should be between the angle cylinders and the push frame.

INSTRUCTIONS CONTINUE ON BACK OF PARTS LIST

NOTE: When installing the angle cylinders on 8' and 8-1/2' plow blades, place four 1-1/4" flatwashers (30) between each lower push frame ear and the stationary end of each angle cylinder. Attach the stationary end of the angle cylinders to the push frame using the two shorter cylinder pins (22). Attach the rod ends of the angle cylinders to the back side of the plow blade using the two longer cylinder pins (44). Secure the cylinder pins using 1/4" X 2" cotter pins (23).

12. PLOW MARKERS: Attach each plow marker (33) to the two holes in the upper outer surface of each end rib of the plow blade using two 5/16"-18 X 1" capscrews (35), 5/16" lockwashers (37), and 5/16"-18 nuts (38).

13. HOOK UP PINS: Compress each hook up pin spring (50) slightly and place them between the inner most ear and the center ear of each side of the push frame with the hole through the center of each spring lined up with the pin holes in the push frame ears. Insert each hook up pin (48) through the pin hole in each inner most ear of the push frame, through the center of the springs (50), and out through the center and outside ears on each side of the push frame. Compress the hook up pin springs (50) slightly and secure the hook up pins (48) using a ill snap ring (49) in the snap ring groove of each hook up pin (48). (The snap rings should be between the end of the spring and the inner surface of each of the center ears on the push frame.)

14. PLOW TO VEHICLE ATTACHING: Pull back and lock the spring loaded hook up pins (48) on each side of the push frame. Attach the lift chain to the lift arm hooks and lift the back end of the push frame up level using the vehicle hydraulics. Line up the spring loaded hook up pins with the corresponding set of holes in the lower part of the mounting frame. Unlock the spring loaded hook up pins so that they go completely through the holes in the mounting frame and the push frame ears. Adjust the lift chain at the lift chain hooks on the lift arm so that the plow blade will lift fully and also be able to follow the ground contour while plowing.

NOTE: If the lift chain does not pull evenly, shorten the longer side by attaching at a different link or at half a link where the chain is attached to the push frame with the 7/16" "U" bolts.

NOTICE: DIAMOND EQUIPMENT OR MEYER PRODUCTS ASSUME NO RESPONSIBILITY FOR INSTALLATIONS NOT MADE IN ACCORDANCE WITH THESE INSTRUCTIONS.

15. PUSH FRAME STOP BOLTS: Screw a 5/8" -11 jam nut (29) all the way onto each of the 5/8"-11 X 3" full thread capscrews (28). Place the capscrew / jam nut assemblies up through the ears on each side of the lower lift frame with the heads of the capscrews down. Fasten with a 5/8" lockwasher (31) and jam nut (29). Adjust the 5/8"-11 X 3" full thread capscrews (28) with the jam nuts (29) so that the heads of the capscrews (28) contact the push frame before the upper pivot section of the push frame contacts the lift arm or the lift cylinder out front electric hydraulic unit while lifting plow or stacking snow.

NOTE: If the push frame is attached to a different set of connecting holes on the mounting frame, the push frame stop bolts should be checked and may need to be readjusted to prevent the push frame from contacting the lift arm, or the lift cylinder / out front electric hydraulic unit while lifting plow or stacking snow.

CAUTION: CHECK THE TRIPEDGE ADJUSTMENT AT THIS TIME.

A. THE SPRINGS ARE PROPERLY ADJUSTED WHEN A PIECE OF PAPER CAN BE PLACED BETWEEN EACH COIL.

B. IF THE TRIPEDGE SPRINGS NEED ADJUSTMENT, LOOSEN THE BOTTOM LOCK NUT ON BOTH SPRING ASSEMBLIES.

ROTATE THE TOP NUT UNTIL THE SPRINGS ARE PROPERLY ADJUSTED.

C. BE SURE TO TIGHTEN THE BOTTOM LOCK NUT SECURELY ON BOTH ASSEMBLIES TO THE TOP NUT TO PREVENT LOOSENING OF THE ASSEMBLIES.