



Verti-Till Field Update

Installation Instructions for use with
5, 7 and 9-Shank Verti-Till Rippers

Applies to Models:

- VT5300A, VT5300R
- VT7225A, VT7225R
- VT7300A, VT7300R
- VT9225A, VT9225R



When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!

General Information

These instructions explain how to install the Verti-Till Field Update. These kits bring recent engineering enhancements to several implement components. Each kit converts an entire implement. These instructions apply to:

Kit	Kit Description
596-184A	VT FIELD UPD SN1026-1062 JUN07
596-185A	VT FIELD UPD SN1063-1079 JUN07

If the implement is serial number 1025 or lower, contact the factory regarding a third kit (596-183A) which is not described by these instructions. Implement serial numbers above 1079 require none of these kits.

Tools Required

- basic hand tools
- Verti-Till manuals: 596-098M Operator's
596-098P Parts
- a tractor with 2 hydraulic circuits and suitable hitch

Before You Start

Review these instructions, and make sure you understand where and how the components install, and which existing parts are removed or re-used.

Components in the two kits covered by the manual differ, based on the serial number of your implement. Sections specific to particular serial numbers indicate whether to apply or skip that section.

Enough parts are included to update a 9-shank implement. There may be excess parts on 5- and 7-shank implements.

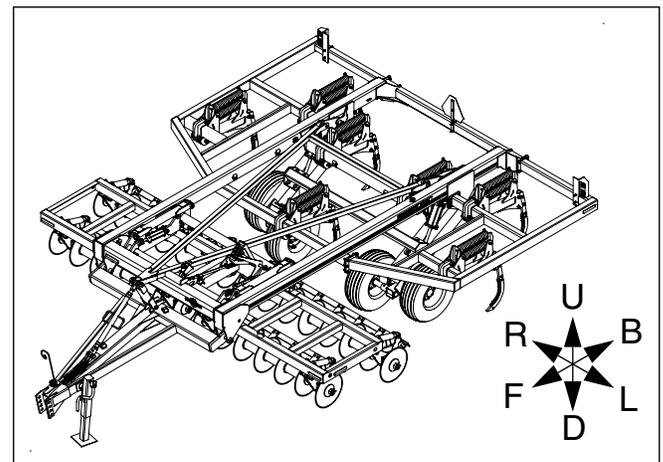


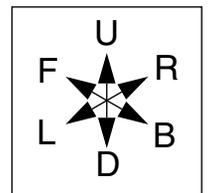
Figure 1
Verti-Till Ripper

21569

Notations and Conventions

“Left” and “Right” are facing in the direction of implement travel.

An orientation rose in the line art illustrations shows the directions of Left, Right, Front, Back, Up, Down.



①	callouts identify components in the currently referenced Figure or Figures.
⑪ to ④⑩	callouts reference new parts from the list on page 18. The descriptions match those on the cartons, bags or item tags, as well as your updated Parts Manual.
⑤① to ⑥⑤	callouts reference affected existing parts from the table on page 20. The descriptions match those in your Parts Manual.

Pre-Update Preparation

1. Inventory the contents per **"New Parts: Kits 596-184A and -185A"** on page 18.
2. Hitch the implement to a suitable tractor or hydraulic power source. Connect all hydraulic circuits.
3. Fully lift the implement.
4. Place jack stands or other supports capable of supporting the implement weight under the main frame, or use a fork-lift at implement rear.

IMPORTANT !

Do not rely on the transport lift cylinder locks to keep the implement raised. These cylinders are disconnected or removed during the upgrade.

Note: The work can also be done with the frame supported by the rear shanks and front jack stand, but having it fully raised provides more access.

5. With the implement on the supports, set all hydraulic circuits to Float to relieve pressure in the lines and cylinders.

Replace Pin Retainers

Notes On Replacing Pin Retainer Bolts

Refer to Figure 2

This kit upgrades Grade 5 pin retaining bolts to Grade 8.

Grade 5 heads have markings with three lines ③.

Grade 8 heads have markings with six lines ⑥.

- The implement may already have Grade 8 bolts in some locations, and require fewer bolts than are in the kit. If a Grade 8 is already in place, it does not need to be changed.
- Figures for pin retainer bolt replacement are shown in exploded view for clarity. Do not remove any components other than existing bolts and nuts. In particular do not remove pins (except where the pin itself is also being replaced).
- It may be necessary to drive a pin in the direction of the retaining bolt in order to free the bolt.
- New bolts are the same length *or longer* than existing bolts.

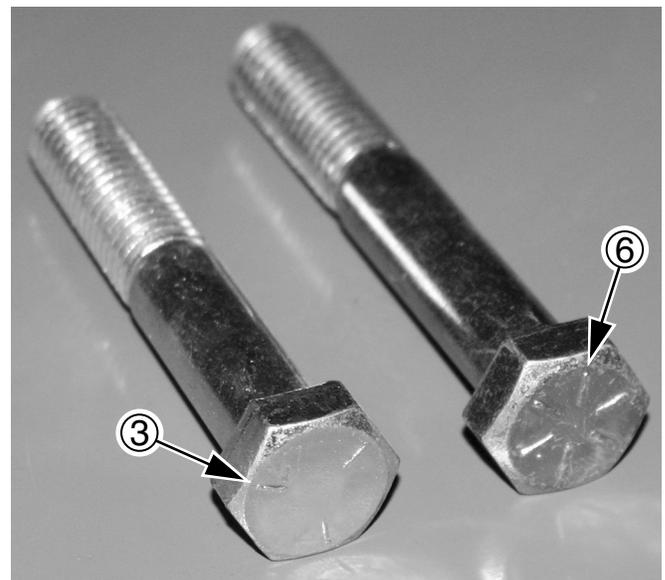


Figure 2
Grade 5 vs. Grade 8

27057

Hitch Toggle Pin Retainers

 Inspect bolt heads before replacing.
If already grade 8, skip to next implement location.

Refer to Figure 3

Replace the retaining bolts and nuts of the pins at each end of the hitch toggle ① between the tongue and frame.

6. Remove two sets of existing:
 - ⑤4 HHCS 3/8-16X2 1/4 GR5
 - ⑤5 NUT LOCK 3/8-16 PLT
 - These parts are not re-used.
7. Select two sets of new:
 - ③5 802-848C HHCS 3/8-16X2 3/4 GR8
 - ③8 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

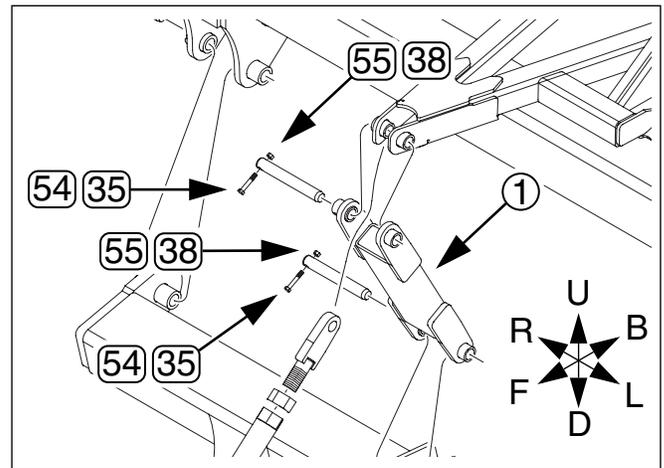


Figure 3
Hitch Toggle

21556

Tongue Pivot Pin Retainers

 Inspect bolt heads before replacing.
If already grade 8, skip to next implement location.

Refer to Figure 4

Replace the retaining bolts and nuts of the pins at each of two pivots ② (left and right side) between the tongue and frame.

8. Remove two sets of existing:
 - ⑤2 HHCS 3/8-16X2 1/2 GR5
 - ⑤5 NUT LOCK 3/8-16 PLT
 - These parts are not re-used.
9. Select two sets of new:
 - ③6 802-849C HHCS 3/8-16X3 1/4 GR8
 - ③8 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

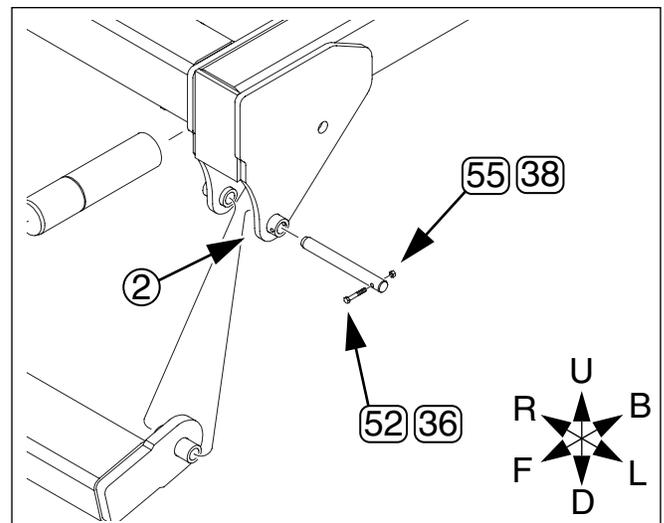


Figure 4
Tongue-Frame Pivot

21556

Frame-Rockshaft Pin Retainers



Inspect bolt heads before replacing.
If already grade 8, skip to next implement location.

Refer to Figure 5 (showing three of four pins on right side)

Replace the retaining bolts and nuts of the two upper pins at each of four pivots ③, ④ between the frame and coulters rockshafts. The lower pins are replaced at a later step.

10. Remove eight sets of existing:

⑤② HHCS 3/8-16X2 1/2 GR5

⑤⑤ NUT LOCK 3/8-16 PLT

These parts are not re-used.

11. Select eight sets of new:

③⑥ 802-849C HHCS 3/8-16X3 1/4 GR8

③⑧ 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

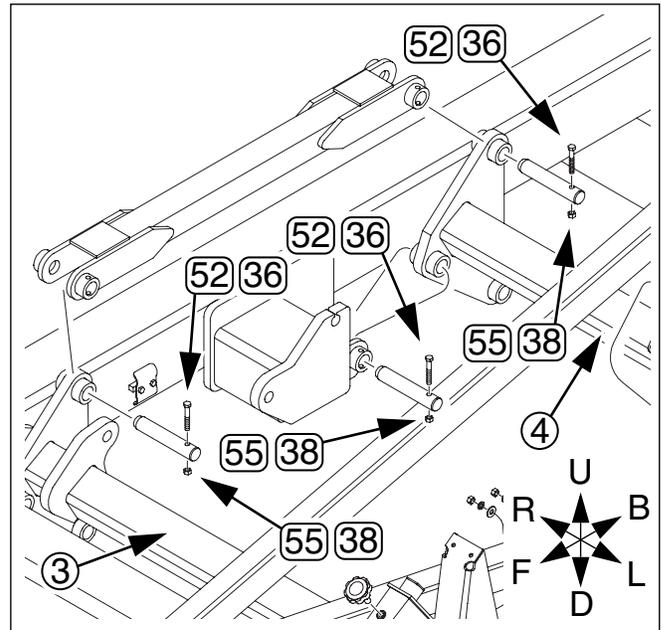


Figure 5
Coulters Rockshaft Pivots

21557

Coulters Frame Pin Retainers



Inspect bolt heads before replacing.
If already grade 8, skip to next implement location.

Refer to Figure 6 (showing only right side pins)

Replace the retaining bolts and nuts of the pins at each of four pivots (2 left and 2 right side) between the coulters sub-frame ⑤ and level link rockshafts.

12. Remove two sets of existing:

⑤② HHCS 3/8-16X2 1/2 GR5

⑤⑤ NUT LOCK 3/8-16 PLT

These parts are not re-used.

13. Select two sets of new:

③⑥ 802-849C HHCS 3/8-16X3 1/4 GR8

③⑧ 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

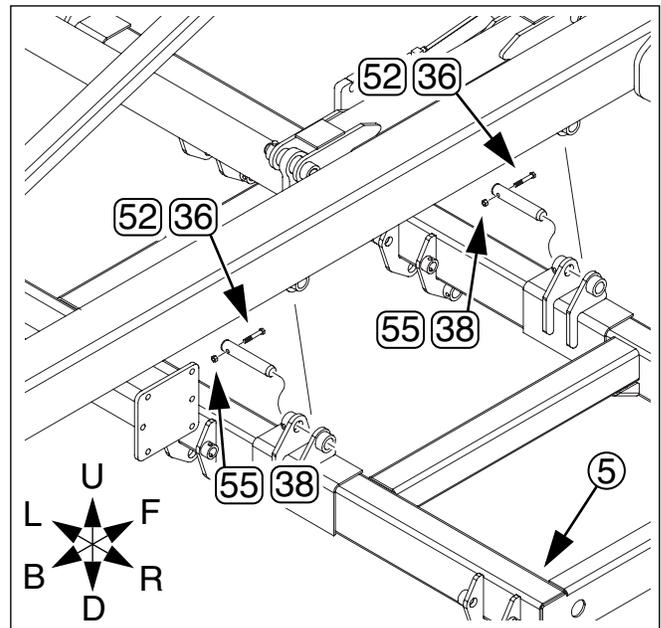


Figure 6
Coulters Sub-frame Pivots

21571

Level Link Crank Pin Retainers

Refer to *Figure 7* and *Figure 8*

Replace the retaining bolts and nuts of the upper four pins in each of two triangular cranks ⑤, ⑦ between the frame and transport wheel rockshaft (not shown).

Note: The bolts in the lower end of the vertical links are replaced on the next page.

Upper and Lower Link Pivots



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

14. Remove four sets of existing:

⑤② HHCS 3/8-16X2 1/2 GR5

⑤⑤ NUT LOCK 3/8-16 PLT

These parts are not re-used.

15. Select four sets of new:

③⑥ 802-849C HHCS 3/8-16X3 1/4 GR8

③⑧ 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

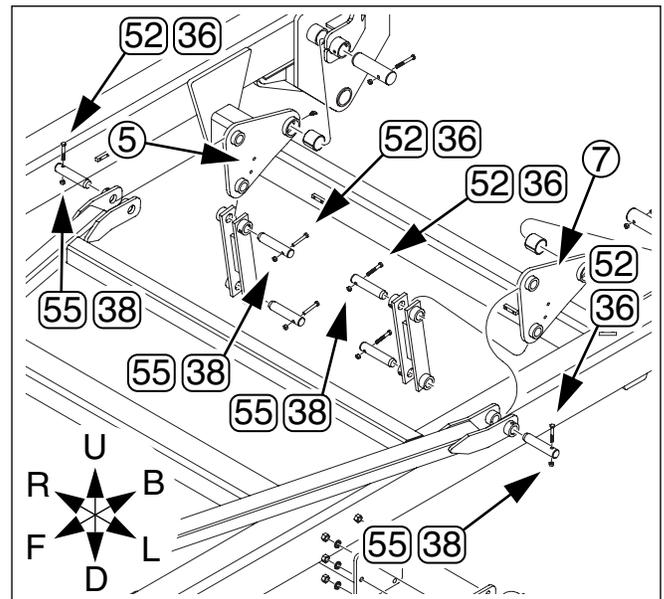


Figure 7
Level Link Crank Links

21558

Crank to Frame Pivots

Refer to *Figure 8*

Replace the retaining bolts and nuts of the main pivot pins in each of the two triangular cranks between the frame and transport wheel rockshaft (not shown).

Upper and Lower Link Pivots



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

16. Remove two sets of existing:

⑤③ HHCS 3/8-16X3 1/4 GR5

⑤⑤ NUT LOCK 3/8-16 PLT

These parts are not re-used.

17. Select two sets of new:

③④ 802-781C HHCS 3/8-16X3 1/2 GR8 PLT

③⑧ 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

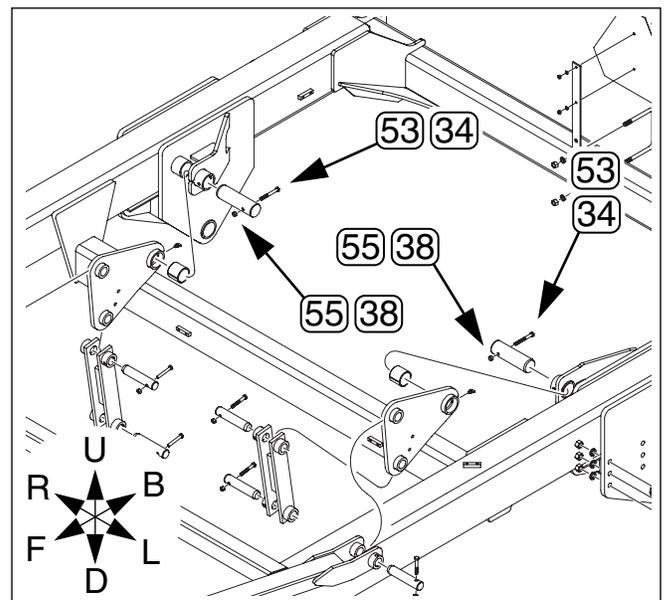


Figure 8
Level Link Crank Pivot

21558

Rockshaft Arm Pin Retainers

Refer to Figure 9 and Figure 10 (showing right side only)

Replace the retaining bolts and nuts of the four pins in each of two floating axle arms ⑧.

Lower Vertical Link Pins



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

These smaller, forward pins connect the arms to the triangular crank (not shown).

18. Remove two sets of existing:

⑤2 HHCS 3/8-16X2 1/2 GR5

⑤5 NUT LOCK 3/8-16 PLT

These parts are not re-used.

19. Select two sets of new:

③6 802-849C HHCS 3/8-16X3 1/4 GR8

③8 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

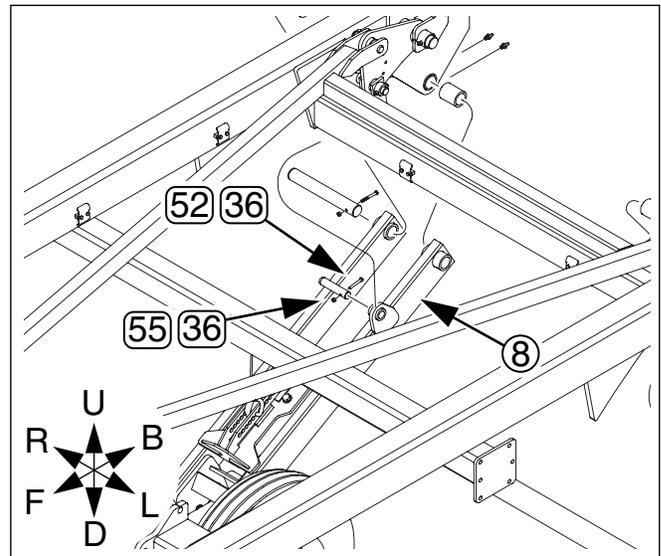


Figure 9
Rockshaft to Frame - Link

21559

Main Arm Pivot Pins



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

Refer to Figure 10 (showing right side only)

These larger, aft pins connect the arm ⑧ to the frame.

20. Remove two sets of existing:

⑤3 HHCS 3/8-16X3 1/4 GR5

⑤5 NUT LOCK 3/8-16 PLT

These parts are not re-used.

21. Select two sets of new:

③7 802-850C HHCS 3/8-16X4 GR8

③8 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

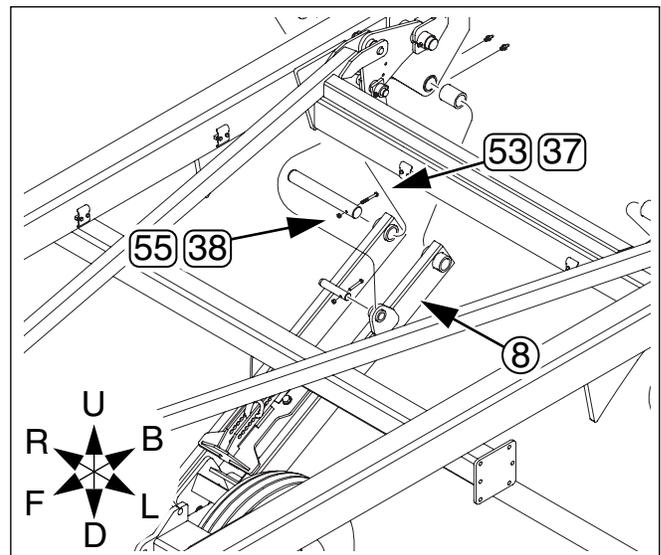


Figure 10
Rockshaft to Frame - Pivot

21559

Coulter Gang Pin Retainers

Refer to Figure 11 (showing right end only)

Replace the retaining bolts and nuts of the 16 pins in each of eight arms connecting the coulters gangs to the coulters sub-frame.

Coulter Gang Pivot Pins



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

These larger, forward/lower pins connect the arms to the sub-frame.

22. Remove two sets of existing:

52 HHCS 3/8-16X2 1/2 GR5

55 NUT LOCK 3/8-16 PLT

These parts are not re-used.

23. Select two sets of new:

36 802-849C HHCS 3/8-16X3 1/4 GR8

38 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

Coulter Trunnion Pins



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

Refer to Figure 12

These smaller, aft/upper pins anchor the spring trunnions to the sub-frame.

24. Remove two sets of existing:

54 HHCS 3/8-16X2 1/4 GR5

55 NUT LOCK 3/8-16 PLT

These parts are not re-used.

25. Select two sets of new:

35 802-848C HHCS 3/8-16X2 3/4 GR8

38 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

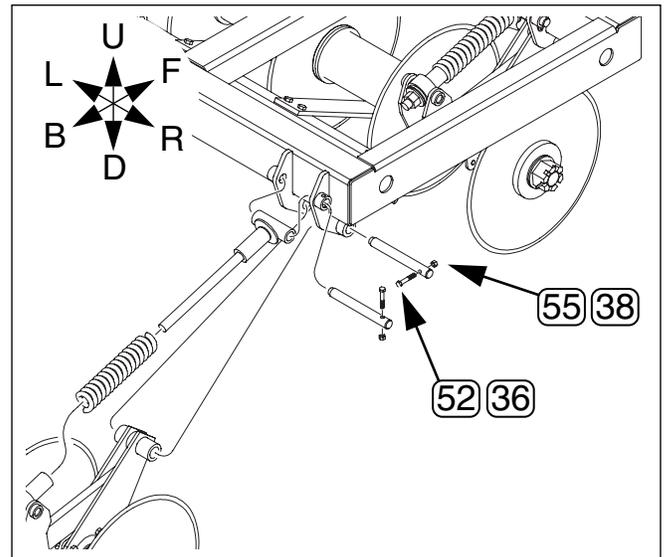


Figure 11
Coulter Gang Pivot

21572

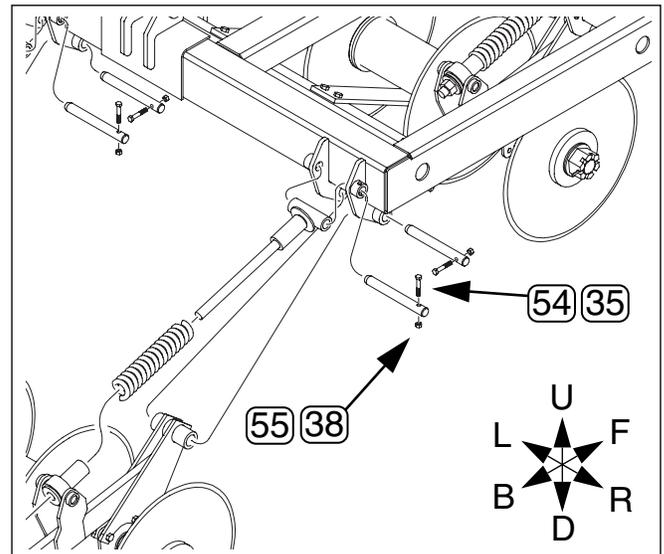


Figure 12
Coulter Trunnion Pin

21572

Transport Lift Cylinder Pins: SN1063+

If the implement is serial number 1062 or lower, skip to “Update Lift Cylinders” on page 8. The upper pins are entirely replaced when the cylinder is replaced.



Inspect bolt heads before replacing.

If already grade 8, skip to next implement location.

Refer to Figure 13

Do not remove the pin ①.

26. Remove four sets of existing:

⑤② HHCS 3/8-16X2 1/2 GR5

⑤⑤ NUT LOCK 3/8-16 PLT

These parts are not re-used.

27. Select four sets of new:

③⑥ 802-849C HHCS 3/8-16X3 1/4 GR8

③⑧ 803-013C NUT LOCK 3/8-16 PLT

Install the bolts in the pins.

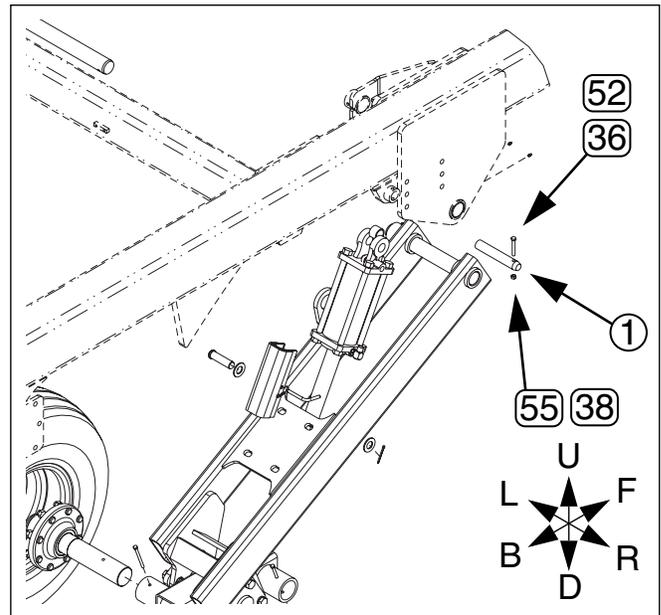


Figure 13
Left Lift Cylinder, Upper Pin

27046

Update Lift Cylinders

Disconnect Transport Rod End

Refer to Figure 14

The rod ends of these cylinders are disconnected to upgrade the pinning method. They are also upgraded later with a clevis replacement or complete cylinder replacement.

Starting with the left arm:

28. Remove the existing:

⑤⑦ PIN COTTER 3/16 X 2,

⑤⑥ WASHER FLAT 1 SAE (may be 0 or 2), and;

⑤⑧ PIN CLEVIS 1 X 3 3/16 LG.

These parts are not re-used.

29. Repeat step 28 for the right arm.

30. Activate the tractor hydraulics and retract the transport lift cylinders. Set circuit to Float to relieve pressure.

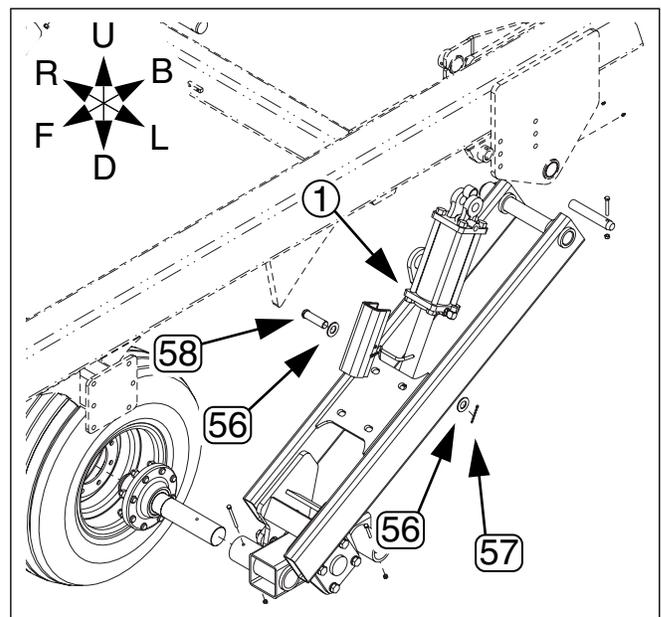


Figure 14
Left Lift Cylinder, Lower

27046

Remove Old Clevis: SN1063+

If your implement is serial number 1062 or lower, skip to “**Remove Old Cylinder: SN1062-**”.

31. Loosen the collar bolt ① on the clevis at the rod end of each transport lift cylinder (these are the cylinder ends disconnected at step 28).

Note: New clevis assembly is deferred until step 49, to provide working space for pin upgrade.

32. Skip to “**Remove Lug Bushing**” on page 10.

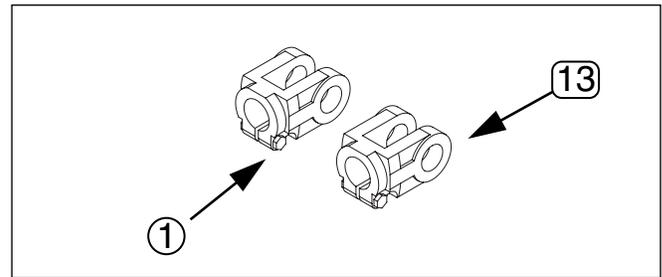


Figure 15
Clevis Replacement

27040

Remove Old Cylinder: SN1062-

If your implement is serial number 1063 or higher, it already has the current cylinder and pin. Skip to “**Remove Lug Bushing**” on page 10.

Refer to Figure 16

CAUTION

Open JIC connections slowly, and bleed off any residual pressure.

Starting with the left side:

33. Disconnect the FJIC end of the base ① and rod ② end hydraulic hoses. Protect the hoses from ground contact or other contamination.
34. Before completing this step, note the orientation of the cylinder ports and the elbow fittings.

Loosen jam nuts on the Male ORB ends of each elbow fittings the cylinder ports. Unscrew, remove and save the existing:

⑥④ EL 3/4MJIC 3/4MORB (elbows)

35. Remove any cotter pin or retaining bolt at the base end ③ of each lift cylinder.
36. Tie a line to the cylinder, remove the pin ③ and lower the cylinder to the ground.

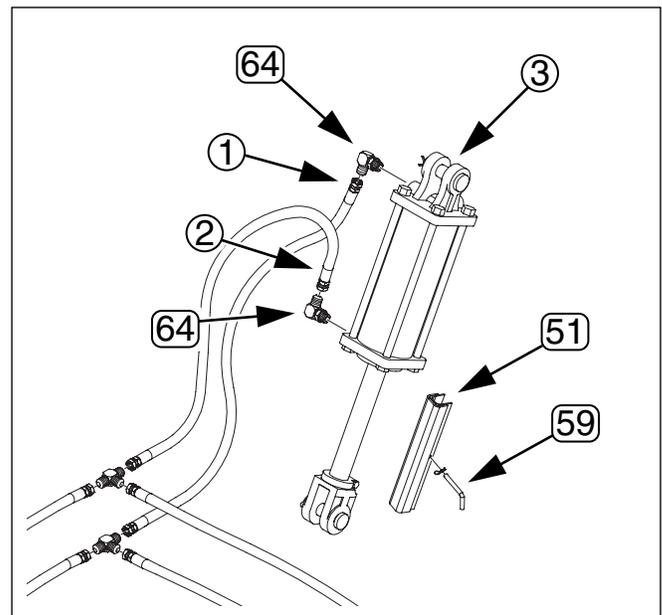


Figure 16
Left Arm Old Cylinder

21553

Remove Lug Bushing

Refer to Figure 17 (showing a cutaway view of the left rock-shaft arm and rod-end lug for the transport lift cylinder)

The new non-rotate pin for the lift cylinder rod ends is a larger diameter than the existing pin. The update kit includes a special tool to remove the bushing (65) in the lug (1), leaving a larger lug hole.

37. Remove the pins from the clevis at each end of both transport lift cylinders (not shown), and
38. Select one each new:
 - 31 802-424C HHCS 1/2-13X4 FTTHD,
 - 32 803-020C NUT HEX 1/2-13 PLT,
 - 33 804-016C WASHER FLAT 1/2 SAE PLT, and;
 - 30 596-254D TOOL, BUSHING REMOVAL.

If the tool is pre-assembled for shipment, disassemble it. In use, the parts ordering is different.

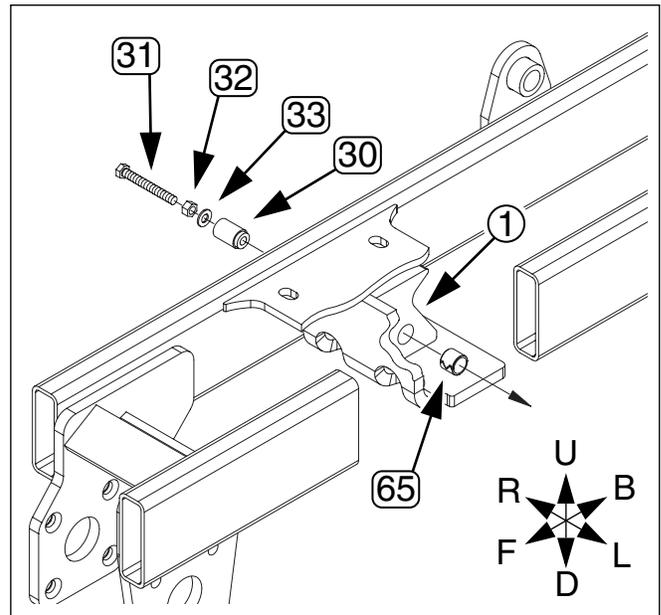


Figure 17
Left Arm Lug

27044

Refer to Figure 18 (showing an end view of an arm)

39. Thread the jam nut (32) all the way onto the full-threaded bolt (31).
40. Place the washer (33) onto the bolt (31).
41. Slide the full-diameter end of the removal tool (30) on to the bolt (31).
42. Place the tip of the bolt (31) and the shouldered end of the tool (30) into the bushing (65) from either side. Place the head of the bolt (31) against the arm side tube (1).

Note: Normal manufacturing tolerances may make it easier to apply the tool from one side or the other.

43. Crank the jam nut (32) toward the tip of the bolt (31), causing the tool (30) to drive the bushing (65) out of the lug (2).
44. Repeat the process for the other arm. The bushing and the tool are not re-used.

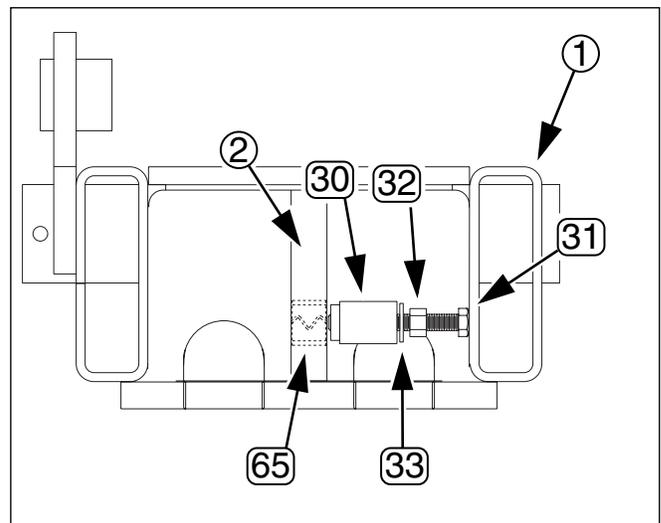


Figure 18
Drive Out Bushing

27045

Install Non-Rotate Assemblies

Refer to Figure 19 (showing left arm in cutaway)

The non-rotate assemblies are normally¹ installed as mirror images of each other, but the component parts are identical (symmetrical). Start with the left arm.

45. Select two new:

- (22) 596-182S PIN 1 1/4 NON ROTATE ASY and disassemble them. Set aside the pin (not shown), one bolt and one nut each, and have at hand the following:
- (2) (23) 308-041D TUBE 1 OD X 5/32 WL X 13/16
- (1) (25) 596-252D NON ROTATING PIN KEEPER
- (1) (26) 596-253D NON ROTATING PIN BASE
- (2) (27) 802-130C HHCS 1/2-13X2 1/2 GR5
- (2) (28) 803-019C NUT LOCK 1/2-13 PLT

46. Using the pin (24), determine which side of the lug has greater clearance. Re-assemble the non-rotate assembly for that orientation¹.

47. Loosely re-assemble the non-rotate base and keeper as shown. The cut corners of the base face toward the arm lug and the bent-up ears brace against the arm tube. The top lug of the keeper tilts toward implement front.

48. Repeat step 45 and step 47 for the right side.

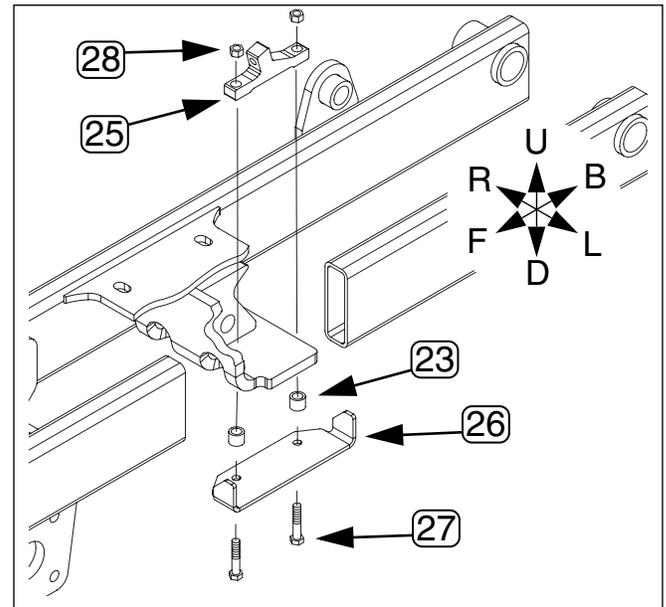


Figure 19
Non-Rotate Keeper & Base

27047

Install New Clevis: SN1063+

If your implement is serial number 1062 or lower, skip to "Position Cylinder Rod End".

Refer to Figure 28 on page 18

49. Select two new:

- (13) 1M7022-ADI MW ROD CLEVIS 1.25PN 1.5-12THD
- Loosen the collar bolts.

50. Install the new clevis assemblies (13) on the transport lift cylinder rod ends. Tighten the collar bolts.

51. Skip to "Position Cylinder Rod End" on page 13

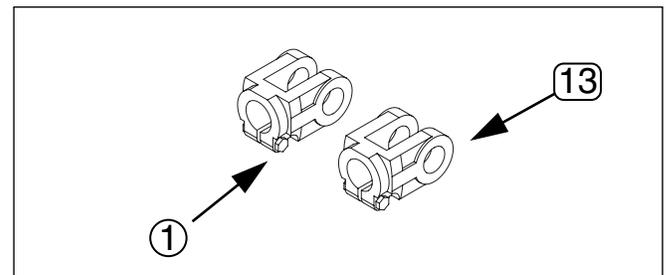


Figure 20
Clevis Replacement

27040

1. Due to normal manufacturing tolerances, there may be more clearance on one side of the lug vs. the other. The pin keeper may be installed to the inside or the outside of the lug, but the top of the keeper must tilt toward implement front and the bent ears of the base must be against the arm tube.

Install New Cylinder: SN1062-

If your implement is serial number 1063 or higher, it already has the current cylinder and pin. Skip to “**Install New Clevis: SN1063+**” on page 11.

Starting with the left side:

Refer to Figure 21

52. Select one each new:

- ④⑩ 810-584C CYL 4.25X8X2.0RD 1.25BX1R HOLE
- ①② 160-401D CART LINK PIN 1 1/4 X 7 13/32

53. Select two saved:

- ⑥④ EL 3/4MJIC 3/4MORB (elbows)

Screw the elbows into the base and rod end hydraulic ports of the new cylinder. Orient the elbows as noted at step 34 (or consult the other side of implement for reference). Tighten the jam nuts.

54. Mount the base end of the cylinder at the frame, using the new pin ①②, and in the same hydraulic port orientation as used by the cylinder noted at step 34 (or consult the other side of implement for reference).

55. Select one each new:

- ③⑥ 802-849C HHCS 3/8-16X3 1/4 GR8
- ③⑧ 803-013C NUT LOCK 3/8-16 PLT

Secure the pin with the bolt and nut.

56. Loosely reconnect the FJIC ends of the base ① and rod ② end hydraulic hoses to their respective elbows on the new cylinder. These connect are left loose so that the rod clevis can be easily positioned in later step.

57. Repeat step 33 through step 56 for the right side.

58. The new cylinder includes new channel locks and pins:

- ①④ 596-163H CYL LOCK CHANNEL 2 X 9 1/2
 - ③⑨ 805-152C BENT PIN 3/8 X 2 1/2 USE W/COT
- When making final disposition of the old cylinders, include with them the old lock sets:
- ⑤① CYLINDER LOCK CHANNEL-LONG and
 - ⑤⑨ BENT PIN 3/8 X 2 1/2 USE W/COT

59. Skip to “**Position Cylinder Rod End**” on page 13.

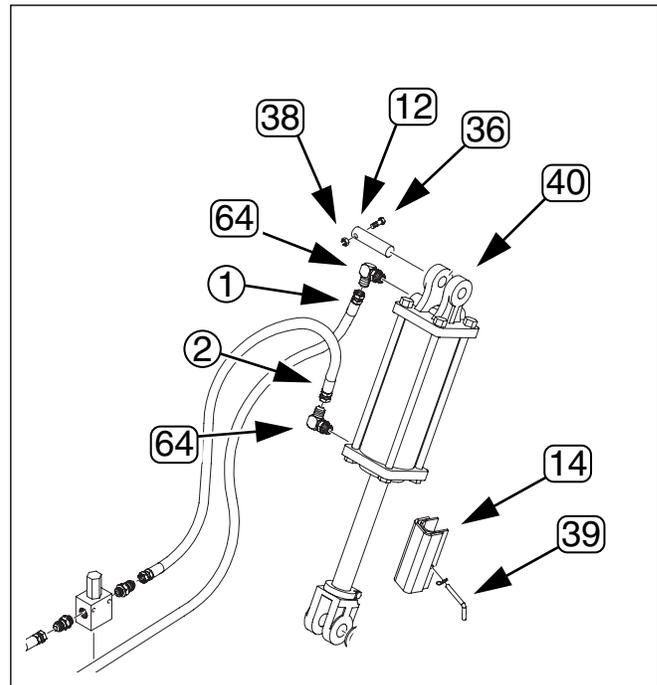


Figure 21
Left Arm New Cylinder

22561

Position Cylinder Rod End

Start with the left side.

Refer to Figure 22

60. Rotate the cylinder clevis ① to that the collar bolt is on top.
61. Extend the clevis onto the arm lug ②.

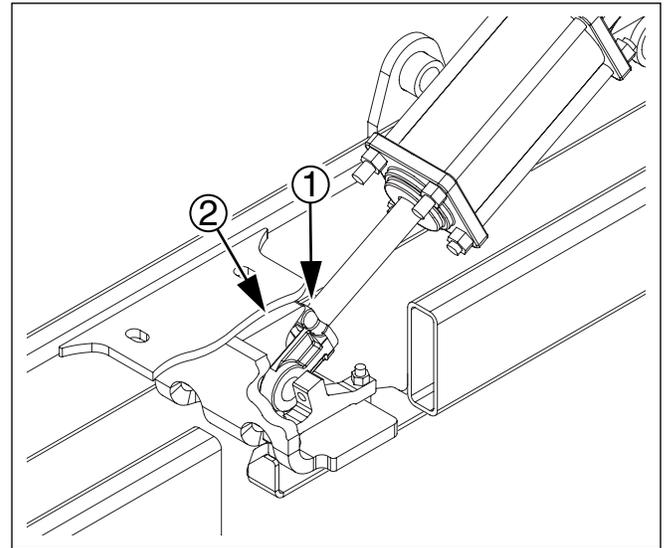


Figure 22
Cylinder Rod End to Lug

27053

Refer to Figure 23

62. Select one each set-aside:
 - ②4 596-251D PIN 1 1/4 X 3.94 NON ROT
 - ②7 802-130C HHCS 1/2-13X2 1/2 GR5
 - ②8 803-019C NUT LOCK 1/2-13 PLT
63. Back the clevis off the lug.
64. From the side of the lug opposite the pin keeper assembly, insert the half-round end of the non-rotate pin ②4 into the cylinder clevis.
65. Extend the clevis onto the arm lug once more, and insert the non-rotate pin through the lug, aligning the flat face of the pin with the forward face of the keeper lug.
66. Secure the pin with a bolt and nut. Insert the bolt from the front.

A complete non-rotate assembly ②2, without clevis and lug, is shown for reference.

67. If the cylinder rod is sufficiently extended, select one each:
 - ①4 596-163H CYL LOCK CHANNEL 2 X 9 1/2
 - ③9 805-152C BENT PIN 3/8 X 2 1/2 USE W/COT and install the lock on the cylinder.
68. Tighten the JIC fittings on the cylinder base ends. Leave the rod ends loose for later bleeding.
69. Repeat step 60 through step 68 for the right side of the implement.

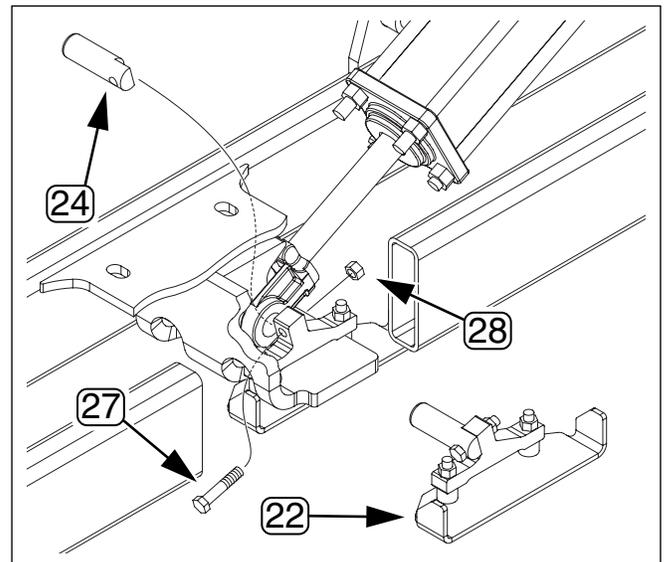


Figure 23
Install Non-Rotate Pin

27054

Install Relief Valve

Assemble Valve

Refer to Figure 24

70. Select one new:

①⑥ 810-348C RELIEF VALVE 1500 PSI TAMP PRF
one new:

①⑧ 811-216C EL 3/4MJIC 9/16MORB
and two new:

①⑨ 811-584C AD 9/16MORB 3/4MJIC

71. Screw the Male O-Ring Bushing (MORB) ends of the adaptors ①⑨ into the side ports of the valve.

72. Screw the MORB end of the elbow ①⑧ into the bottom/center port of the valve and seat the jam nut.

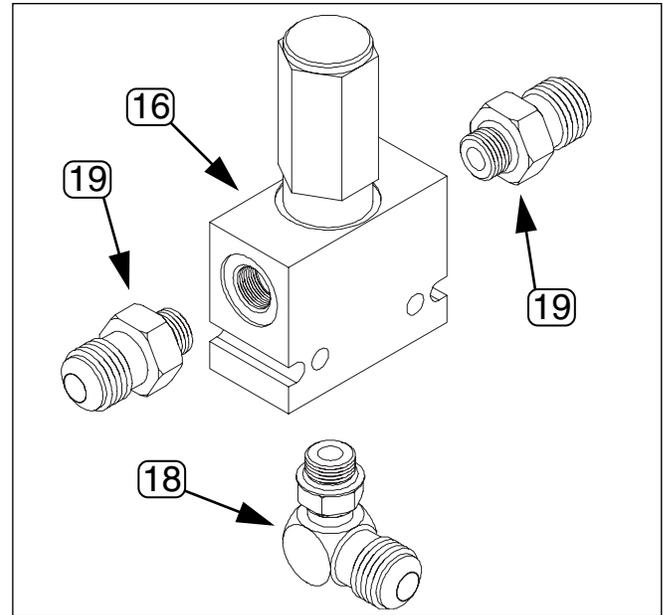


Figure 24
Assemble Relief Valve

27041

Open Circuit

The relief valve is plumbed into the transport lift circuit on the right side of the mainframe, near the right lift cylinder.

CAUTION

Open lines first at JIC connectors, and do so slowly, in case there is any residual pressure in the lines.

Refer to Figure 25

Typical implements may vary from the figure, both in hose and clamp placement.

73. Trace the hoses and ensure that you understand which is rod (lower/retract) and which is base (lift/extend). Usually, the rod circuit is the upper hose ①, and the base circuit is the lower hose ②.

74. Loosen any clamps necessary to free hoses for disconnection and routing adjustments.

75. Crack the hose JIC connectors ①, ② just forward of the tees and bleed off any residual pressure. Unscrew the JIC connectors completely.

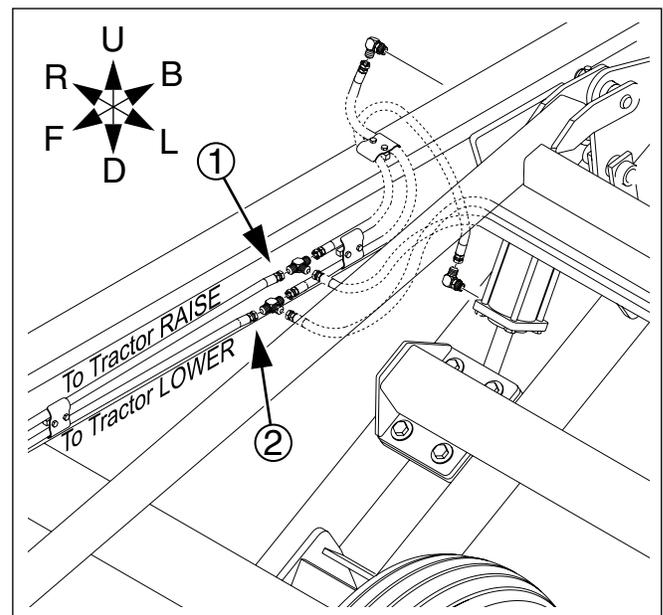


Figure 25
Open Circuit

27042

Install Valve Fittings

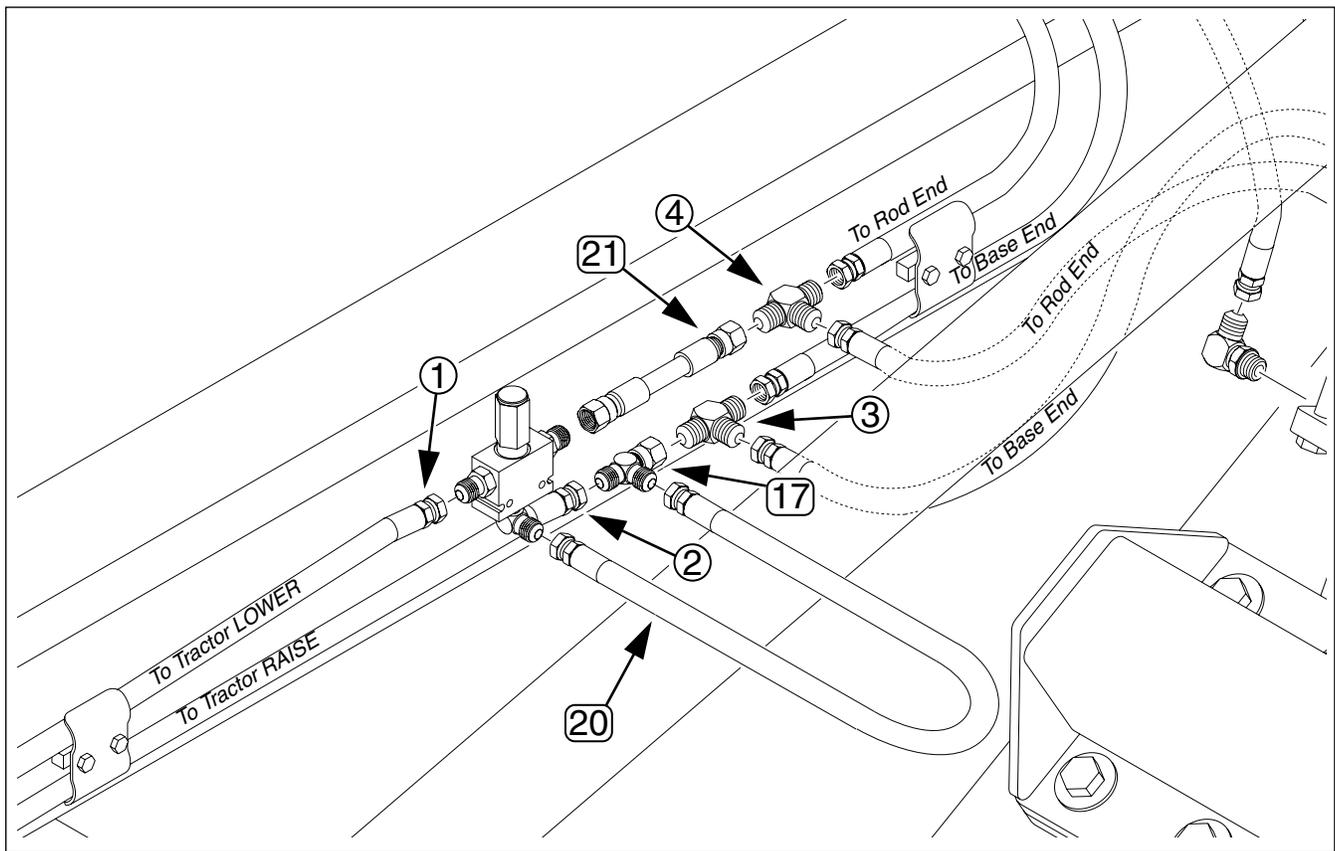


Figure 26
Valve Fittings

27043

Refer to Figure 26

76. Select one new:

①⑦ 811-073C TE 3/4MJIC 3/4MJIC 3/4FJIC

Connect the F-JIC end of the new tee ①⑦ to the M-JIC end of the existing base circuit tee ③. Orient the center M-JIC port of the tee pointing away from the frame.

77. Connect the base circuit hose ② to the new tee ①⑦.

78. Select one new:

②① 841-209C HH1/2R1 008 3/4FJIC (8in hose)

Connect one end of the new hose ②① to the M-JIC end of the existing rod circuit tee ④.

79. Select one new:

②② 841-008C HH3/8R2 017 3/4FJIC (17in hose)

Connect one end of the new hose ②② to the center port of the new tee ①⑦.

Install Valve

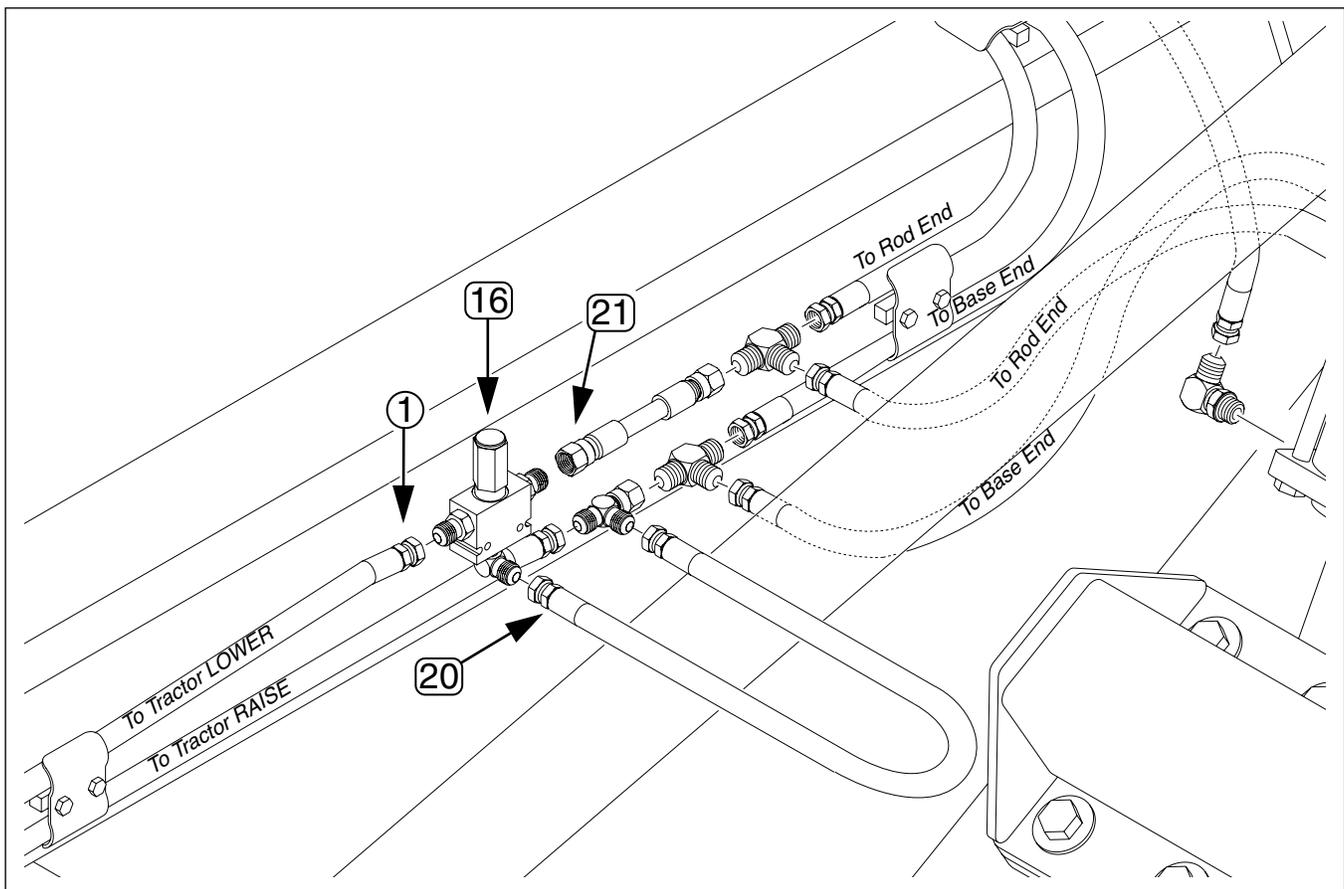


Figure 27
Install Valve

27043

Refer to Figure 24

80. Select one new:
 - 16 RELIEF VALVE 1500 PSI TAMP PRF (assembled)
81. Connect the 17in hose 20 to the valve 16 center port.
82. Connect the valve 16 end ports to the existing rod circuit hose 1 and the new 8in hose 21.
83. Arrange the existing and new hoses under nearby clamps, and secure to minimize hose movement during implement operations.

Closeout

Refer to Verti-Till Operator's manual.

84. Connect the Transport and Coulter lift circuits to the tractor.
85. If the transport lift locks are not installed, carefully extend the transport lift circuit to raise the implement enough to install the locks.
86. Conduct the "Bleeding Transport Cylinders" procedure from the Operator's manual.
87. Check all hydraulic fittings for leaks.
88. Extend the Transport lift circuit and install the locks.
89. Lower the fork lift or dismount the implement from the blocks or stands used to hold it up.
90. Remove the locks from Transport lift cylinders, and exercise both lift circuits, checking for binding or missing bolts at all hinge points.
91. Raise both circuits and install locks.

Parts Lists

New Parts: Kits 596-184A and -185A

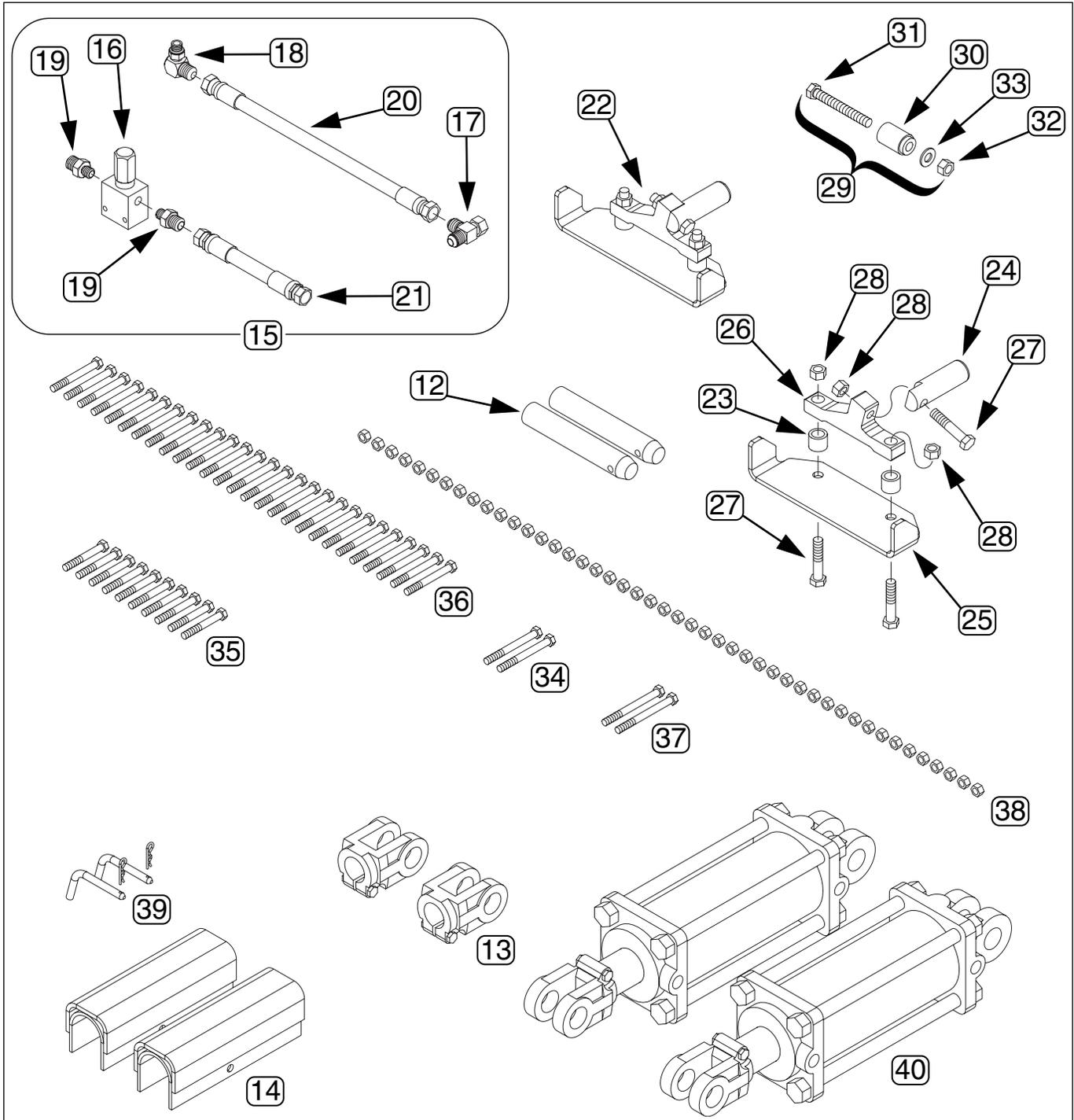


Figure 28
New Parts

27040

Your kit includes the parts listed below. Each kit contains only some of the parts illustrated on page 18.

The part call-out numbers in this list match all Figures in the installation instructions.

Callout	Quantity in Kit 596-		Part Number	Part Description
	-184A	-185A		
⑪	1	1	596-186M	This manual (not shown above)
⑫	2	0	160-401D	CART LINK PIN 1 1/4 X 7 13/32
⑬	0	2	1M7022-ADI	MW ROD CLEVIS 1.25PN 1.5-12THD
⑭	2	0	596-163H	CYL LOCK CHANNEL 2 X 9 1/2
⑮	1	1	596-181V	RELIEF VALVE KIT
⑯	1	1	810-348C	RELIEF VALVE 1500 PSI TAMP PRF
⑰	1	1	811-073C	TE 3/4MJIC 3/4MJIC 3/4FJIC
⑱	1	1	811-216C	EL 3/4MJIC 9/16MORB
⑲	2	2	811-584C	AD 9/16MORB 3/4MJIC
⑳	1	1	841-008C	HH3/8R2 017 3/4FJIC
㉑	1	1	841-209C	HH1/2R1 008 3/4FJIC
㉒	2	2	596-182S	PIN 1 1/4 NON ROTATE ASY
㉓	4	4	308-041D	TUBE 1 OD X 5/32 WL X 13/16
㉔	2	2	596-251D	PIN 1 1/4 X 3.94 NON ROT
㉕	2	2	596-252D	NON ROTATING PIN KEEPER
㉖	2	2	596-253D	NON ROTATING PIN BASE
㉗	6	6	802-130C	HHCS 1/2-13X2 1/2 GR5
㉘	6	6	803-019C	NUT LOCK 1/2-13 PLT
㉙	1	1	-	ASSY, BUSHING REMOVAL TOOL
㉚	1	1	596-254D	TOOL, BUSHING REMOVAL
㉛	1	1	802-424C	HHCS 1/2-13X4 FTTHD
㉜	1	1	803-020C	NUT HEX 1/2-13 PLT
㉝	1	1	804-016C	WASHER FLAT 1/2 SAE PLT
㉞	2	2	802-781C	HHCS 3/8-16X3 1/2 GR8 PLT
㉟	10	2	802-848C	HHCS 3/8-16X2 3/4 GR8
㊱	30	18	802-849C	HHCS 3/8-16X3 1/4 GR8
㊲	2	2	802-850C	HHCS 3/8-16X4 GR8
㊳	46	20	803-013C	NUT LOCK 3/8-16 PLT
㊴	2	0	805-152C	BENT PIN 3/8 X 2 1/2 USE W/COT
㊵	2	0	810-584C	CYL 4.25X8X2.0RD 1.25BX1R HOLE

Existing Parts Affected

The following existing parts may be involved in the kit installation. The Disposition column indicates whether parts are left in place, moved or not re-used.

The part call-out numbers in the list match all Figures in the installation instructions. Descriptions match those in your implement Parts manual.

Existing Parts List

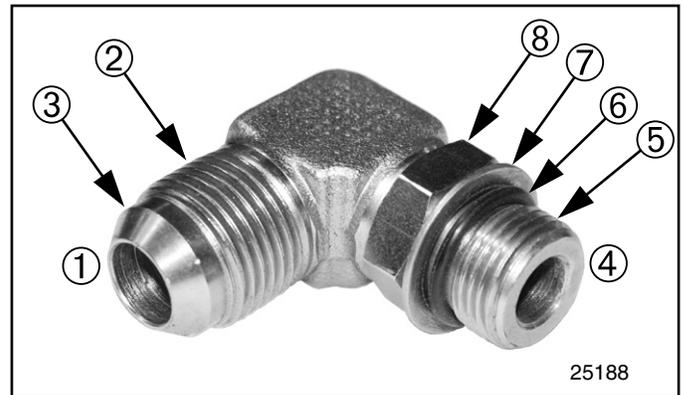
Callout	Part No.	Part Description	Part Disposition
⑤1	161-073H	CYLINDER LOCK CHANNEL-LONG	Removed. Not re-used.
⑤2	802-114C	HHCS 3/8-16X2 1/2 GR5	Removed. Not re-used.
⑤3	802-168C	HHCS 3/8-16X3 1/4 GR5	Removed. Not re-used.
⑤4	802-382C	HHCS 3/8-16X2 1/4 GR5	Removed. Not re-used.
⑤5	803-013C	NUT LOCK 3/8-16 PLT	Removed. Not re-used.
⑤6	804-029C	WASHER FLAT 1 SAE	Removed. Not re-used.
⑤7	805-058C	PIN COTTER 3/16 X 2	Removed. Not re-used.
⑤8	805-090C	PIN CLEVIS 1 X 3 3/16 LG	Removed. Not re-used.
⑤9	805-152C	BENT PIN 3/8 X 2 1/2 USE W/COT	Removed. Not re-used.
⑥0	-	Transport Lift Cylinder	<depends on implement serial number>
⑥1	810-516C	CYL 4X8X1.5 ROD HARDENED BUSH	Removed. Not re-used.
⑥2	810-536C	CYL 4X8X1.5 ROD 1 1/4BX1R HOLE	Removed. Not re-used.
⑥3	810-584C	CYL 4.25X8X2.0RD 1.25BX1R HOLE	Removed and re-installed.
⑥4	811-063C	EL 3/4MJIC 3/4MORB	Removed and re-installed.
⑥5	890-005C	BUSHING CYL 1 1/4 X 1 X 1	Removed. Not re-used.

Reference Information

Abbreviations

AD	Adaptor
ADI	Austempered Ductile Iron
ASY	Assembly
COT	Cotter pin
CYL	Cylinder
EL	Elbow
FTHD	Full-Threaded
GR	Grade
HHCS	Hex Head Cap Screw (Bolt)
LH	Left Hand
JIC	Joint Industry Conference (Male & Female)
MW	Midway (supplier name)
ORB	O-Ring Bushing (Male & Female)
OD	Outside Diameter
PLT	Plated
PN	Pin (diameter)
PSI	Pounds per Square Inch
RH	Right Hand
RHSNB	Round Head Shank Neck Bolt
SAE	Society of Automotive Engineers (mechanical standard)
TAMP PRF	Tamper-Proof
TE	Tee
THD	Thread

Connector Identification



- ① **JIC** - Joint Industry Conference (SAE J514)
Note straight threads ② and the 37° cone ③ on “M” fittings (or 37° flare on “F”).
- ④ **ORB** - O-Ring Boss (SAE J514)
Note the straight threads ⑤ and, elastomer O-Ring ⑥.
Fittings needing orientation, such as the ell above, also have a washer ⑦ and jam nut ⑧ (“adjustable thread port stud”)

Torque Values

Fastener/Fitting	Ft-Lbs	N-m
$\frac{3}{8}$ -16 Grade 8	31	42
$\frac{1}{2}$ -13 Grade 5	105	76
$\frac{9}{16}$ ORB jam nut	12-16	16-22
$\frac{9}{16}$ ORB straight	18-24	24-32
$\frac{3}{4}$ JIC	27-39	37-53

Great Plains Manufacturing, Inc.

Corporate Office: P.O. Box 5060
Salina, Kansas 67402-5060 USA
