



Lock Valve Kit 40ft Conventional Till Heavy Duty Air Drills

Used with:

- CTA4000HD s/n EE1130-



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 a Lock Valve Kit. This kit prevents openers from lowering during transport or maintenance.

These instructions apply to an installation of:

Kit	Kit Description
160-048A	CTA4000 OPNR TRANSPRT LOCK KIT

Each kit upgrades an entire drill. All new parts are used.

Tools Required

- air cart Operator Manual:
ADC1150: 167-058M, 167-101M
ADC2220: 167-073M
ADC2350: 167-085M
- updated drill implement Operator Manual:
160-037M, dated Nov. 2008 or later, and
updated drill Parts Manual:
160-037P, dated Oct. 2008 or later.
- basic hand tools,
- cleaning rags and supplies,
- a line to temporarily secure one loose hose, and
a small amount of hydraulic fluid to replace any lost
during hose disconnection.

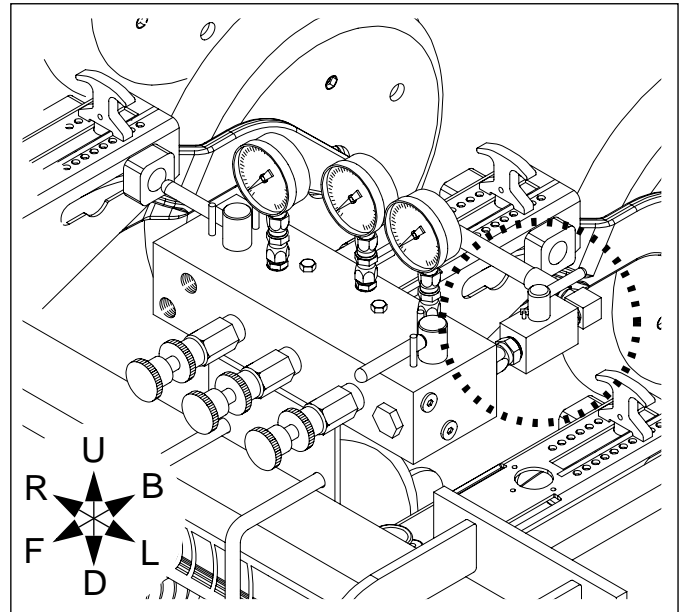
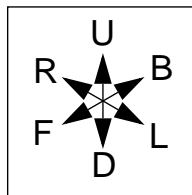


Figure 1
Lock Valve Installed

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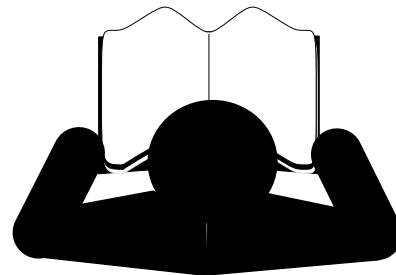
Notations and Conventions

“Left” and “Right” are facing in the direction of machine travel. An orientation rose in the line art illustrations shows the directions of Up, Back, Left, Down, Front, and Right.



Call-Outs

- ① Single-digit callouts identify components in the currently referenced Figure or Figures. These numbers may be reused for different items from page to page.
- ⑪ to ⑮ Two-digit callouts in this range reference new parts from the new parts list on page 6.
- ⑤① This callout references an affected existing part from the table on page 6. The description matches that in your Parts Manual.



Before You Start

Review these instructions, with the following objectives at each step:

- **Need:**
Inspect the drill and ensure that it does not already have the lock valve. See page 1 for an illustration of the completed installation.
- **Safety:**
Hydraulic Lines may be under pressure even with tractor circuits in Float.

Frame-mounted coulters have sharp disk blades under the work area.
- **Inventory:**
Examine any called-for items and make sure all parts are present.
- **Comprehension:**
Make sure the installer understands where each part is installed, and what tools are required for the task.

Pre-Assembly Preparation

Work Location

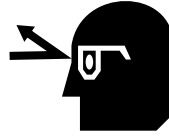
1. Move the drill to a location with:
 - a non-flammable surface beneath, and;
 - adequate illumination.

Prepare Drill

2. Unfold the drill.
Lower the openers.
3. Put tractor hydraulic circuits in Float.
Shut down tractor and remove key.

Refer to Figure 2

4. Locate the valve block to be updated.
5. Clean the valve and hose connections of any oil, dirt or other contaminants.



Avoid High Pressure Fluids

Escaping fluid under pressure can penetrate the skin, causing serious injury.

- ▲ *Reduce the hazard by relieving pressure before disconnecting hydraulic lines.*
- ▲ *Wear protective gloves and safety glasses or goggles when working with hydraulic systems.*
- ▲ *Assume lines are pressurized until bled. Slowly open (“crack”) fittings.*
- ▲ *Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.*
- ▲ *If an accident occurs, seek immediate medical attention from a physician familiar with this type of injury.*

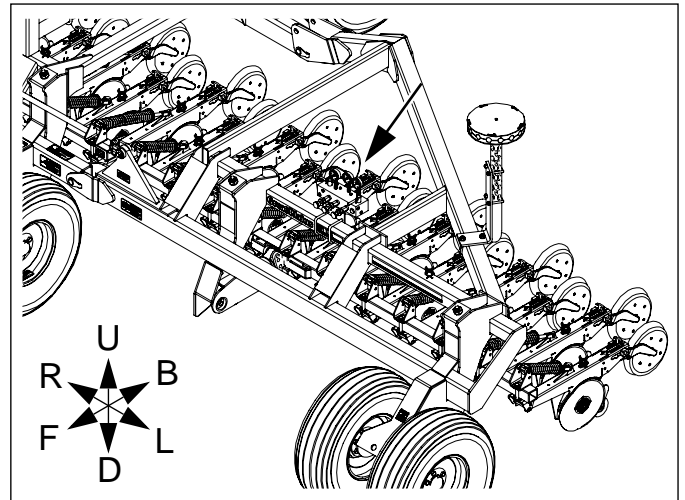


Figure 2
Valve Block Location

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Remove Existing Elbow

Refer to Figure 3 (depicting an exploded view of the valve assembly for clarity of parts identification - remove only the specified elbow)

- Locate the left rear elbow at the port labeled "SFR" (51) 811-065C EL 9/16MJIC 9/16MORB



WARNING High Pressure Fluid Hazard

This line may still contain hydraulic fluid at high pressure.
Wear gloves and eye protection.

- Slowly loosen the FJIC connector (1) on the hose connected to elbow (51). If any fluid flows, wait until flow stops before next step.
- Have the line/tie ready, and remove the hose (1) from the elbow (51). Secure the hose at any convenient anchor point to prevent it striking the ground, or needlessly draining more fluid.
- Unscrew and remove the elbow (51) from the valve body. This part is not re-used.

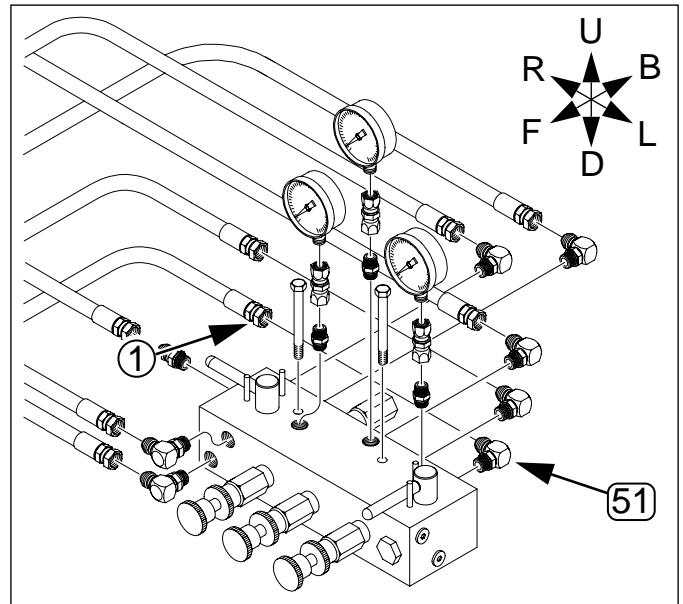


Figure 3
Remove Existing Elbow

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Install Lock Kit Parts

Refer to Figure 4 (which depicts only the parts assembled)

- Select one new:
(15) 811-584C AD 9/16MORB 3/4MJIC
Screw the ORB end into valve port "SFR".
Tighten to straight ORB torque spec (page 5).
- Select one each new:
(12) 810-345C VALVE 90 DEGREE SHUT-OFF
(14) 811-324C AD 3/4MORB 3/4FJIC
Operate the valve handle to the open position (in-line with valve body). Screw the adaptor (14) into the end away from the handle. Tighten to straight ORB spec.
- Screw the FJIC end (14) of the valve assembly onto the MJIC adaptor (15) installed at step 10.
Rotate the valve body so that the handle is up.
Tighten the JIC connections to torque spec.
- Select one new:
(13) 811-171C EL 3/4MORB 9/16MJIC
Screw the ORB end of the elbow (13) into the open end of the valve (12), finger-tight.
Orient the JIC end of the elbow to point right. Tighten the ORB jam nut to torque spec.
- Connect the FJIC end of the hose (1) to the MJIC end of elbow (13). Tighten to JIC torque spec.

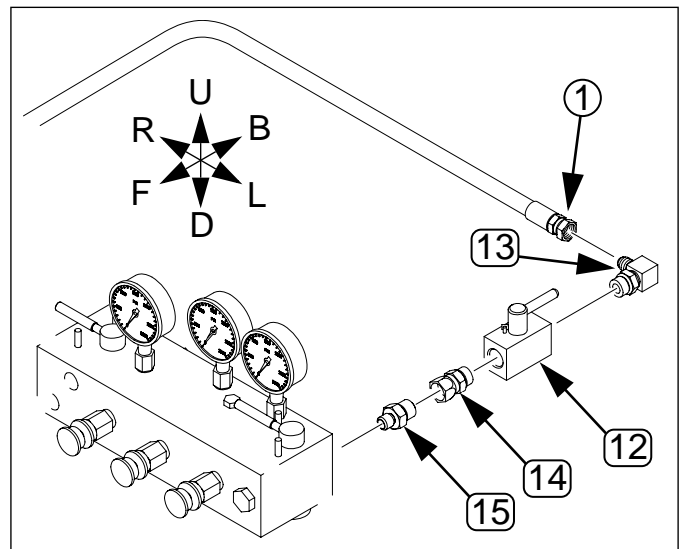


Figure 4
Remove Elbow

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Closeout

- With the lock valve open, re-charge the lift system, per the "**Bleeding Lift Hydraulic**" instructions in the drill Operator manual.

Operation

Refer to Figure 5

Transport and Maintenance

- Whenever the FIELD/TRANS valve is set to TRANS, also close the lock valve.

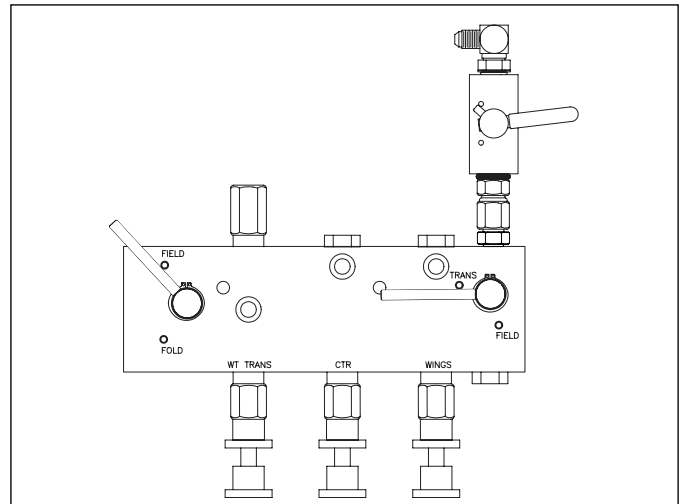


Figure 5
Valves for Transport

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Field Operation

Refer to Figure 6

- Whenever the FIELD/TRANS valve is set to FIELD, also open the lock valve.

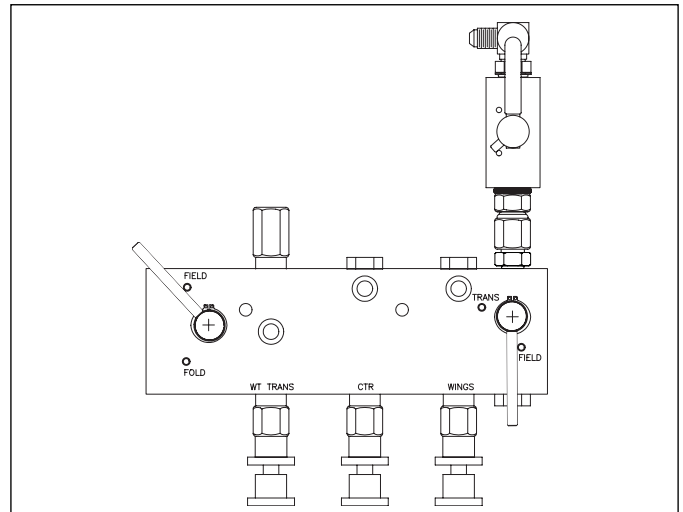
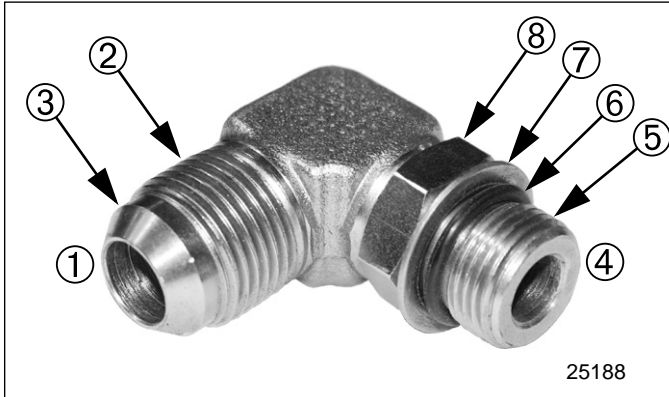


Figure 6
Valves for Field

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Installation Reference Information

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”)
- **NPT** - National Pipe Thread (not shown)
have tapered threads, no cone/flare, no O-ring.

Torque Values

Fastener/Fitting	Ft-Lbs	N-m
$\frac{9}{16}$ JIC	18-20	24-27
$\frac{9}{16}$ ORB w/jam nut	12-16	16-22
$\frac{9}{16}$ ORB straight	18-24	24-32
$\frac{3}{4}$ JIC	27-39	37-53
$\frac{3}{4}$ ORB w/jam nut	20-30	27-41
$\frac{3}{4}$ ORB straight	27-43	37-58

Parts Lists

New Parts

The part call-out numbers in this list match all Figures in these installation instructions. Part descriptions match those in your updated Parts Manual.

Quantities are units ("ea") unless otherwise noted.

Kit Contents

Callout	Quantity in Kit	Part Number	Part Description
		160-048A	CTA4000 OPNR TRANSPRT LOCK KIT
(11)	1	160-049M	MANUAL CTA4000 TRANS LK VALVE
(12)	1	810-345C	VALVE 90 DEGREE SHUT-OFF
(13)	1	811-171C	EL 3/4MORB 9/16MJIC
(14)	1	811-324C	AD 3/4MORB 3/4FJIC
(15)	1	811-584C	AD 9/16MORB 3/4MJIC

Existing Part Affected

The following existing part is involved in the kit installation. The Disposition column indicates whether the part is left in place, moved or not re-used.

The part call-out number in the list matches all Figures in the installation instructions. The description matches that in your drill Parts manual.

Callout	Part No.	Part Description	Part Disposition
(51)	811-065C	EL 9/16MJIC 9/16MORB	Removed and not re-used.

Abbreviations

AD	Adaptor
EL	Elbow
F	Flare
JIC	Joint Industry Conference (37 degree flare)

LK	Lock
M	Male
ORB	O-Ring Boss

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