

Hutchinson I Mayrath

ASSEMBLY INSTRUCTIONS

The following instructions are to be used for assistance with the set-up and installation of equipment, accessories, and serviceable parts used on this machinery and are not meant to replace any operating or safety procedures as outlined in the Operator’s Manual included with the conveyor.

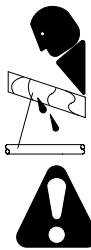


This safety symbol is used throughout these instructions to alert you to information about unsafe actions or situations, and will be followed by the word DANGER, WARNING, or CAUTION. Be Alert! Your safety and the safety of others is involved.

DANGER - Indicates immediate hazards that may result in severe injury or death. **WARNING** - Indicates unsafe actions or situations that may cause severe injury, death and/or major equipment or property damage. **CAUTION** - Indicates unsafe actions or situations that may cause injury, and/or minor equipment or property damage.

HYDRAULIC FITTING INSTALLATION INSTRUCTIONS

The following information identifies the various types of hydraulic fittings and their thread sizes. Determine the fitting type(s) being used in your application and follow the installation procedures as detailed for each fitting.



WARNING! Hydraulic systems are highly pressurized. Do Not connect or disconnect hydraulic components when there is pressure within the system.

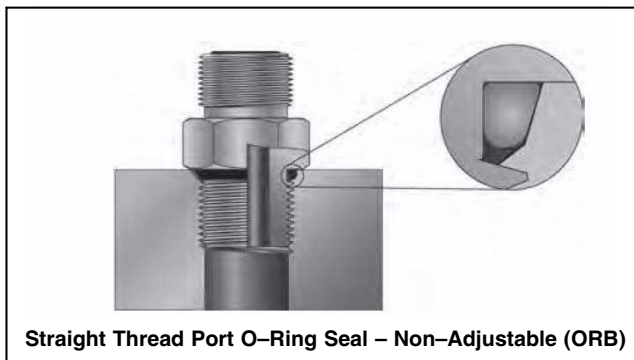
Escaping hydraulic oil, even an invisible pin hole leak can penetrate body tissues and cause serious injury. Use a piece of wood or cardboard when searching for leaks, Never use your hands or other parts of your body.

If injured by hydraulic oil escaping under pressure, see a doctor immediately. Serious infection or reaction can occur if medical attention is not received at once.

Straight Thread Port O-Ring Seal Non-Adjustable (ORB)

Port adapters will have 2 end types. For example a straight port O-ring Seal (adjustable) with an O-ring face seal on the other end..

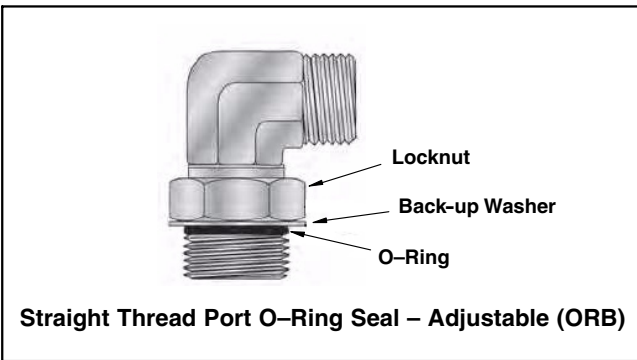
- Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks, and scratches, or any foreign material. Ensure O-ring is installed.
- Lubricate O-ring with a light coating of system fluid or a compatible lubricant to help the O-ring slide past the port entrance corner and avoid damaging it.
- Screw fitting into port and tighten to proper torque using the table shown below.



SAE Straight Thread Port Assembly (O-ring)					
SAE Dash Size	Thread Size UN/UNF	Non-Adjustable		Plugs	
		ORFS	JIC	Hollow Hex	Hex Head
		ft. lbs. (in. lbs.)	ft. lbs. (in. lbs.)	ft. lbs. (in. lbs.)	ft. lbs. (in. lbs.)
4	7/16-20	(310)	(260)	(180)	(260)
5	1/2-20	(360)	(280)	(250)	(280)
6	9/16-18	(420)	(350)	(350)	(350)
8	3/4-16	(720)	(620)	(620)	(620)
10	7/8-14	100	85	85	85
12	1 1/16-12	135	135	135	135

**Straight Thread Port O-Ring Seal
Adjustable - (ORB)**

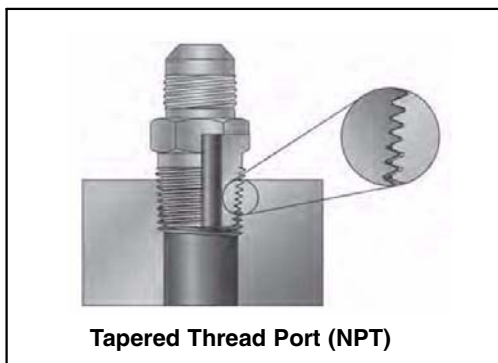
- Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks, and scratches, or any foreign material. Ensure O-ring is installed.
- Lubricate O-ring with a light coating of system fluid or a compatible lubricant to help the O-ring slide past the port entrance corner and avoid damaging it.
- Back off lock nut as far as possible. Make sure back-up washer is not loose and is pushed up as far as possible.
- Screw fitting into port until the back-up washer or the retaining ring contacts the face of the port (light wrenching may be necessary).
- To align the tube end of the fitting to accept incoming tube or hose assembly, unscrew the fitting by the required amount, but not more than one full turn.
- Using two wrenches, hold fitting in desired position and tighten locknut to the proper torque value as shown in the table below.



SAE Straight Thread Port Assembly (O-ring)			
SAE Dash Size	Thread Size UN/UNF	Adjustable	
		ORFS	JIC
		ft. lbs. (in. lbs.)	ft. lbs. (in. lbs.)
4	7/16-20	(180)	(180)
5	1/2-20	(360)	(250)
6	9/16-18	(420)	(350)
8	3/4-16	(720)	(620)
10	7/8-14	100	85
12	1 1/16-12	135	135

Tapered Thread Port - (NPT)

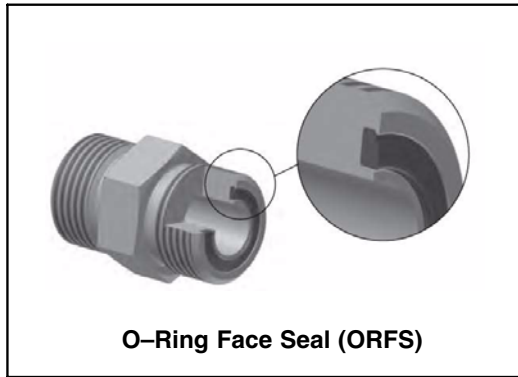
- Inspect components to ensure that male and female port threads and sealing surfaces are free of burrs, nicks, and scratches, or any foreign material. Ensure O-ring is installed.
- Apply sealant/lubricant to male pipe threads if not pre-applied. With any sealant, the first one to two threads should be left uncovered to avoid system contamination.
- Screw the connector into the port to finger tight position.
- Wrench tighten the connector to the appropriate turns from finger tight (T.F.F.T.) values shown in the table below, making sure that the tube end of a shaped connector is aligned to receive the incoming tube or hose assembly. Never back-off (loosen) pipe threaded connectors to achieve alignment.



Tapered Pipe Thread Size	
NPTF	T.F.F.T.
1/4-18	2-3
3/8-18	2-3
1/2-14	2-3
3/4-14	2-3
1-11 1/2	1.5-2.5

O-Ring Face Seal (ORFS)

- Ensure that the seal is properly installed in the groove of the face seal.
- Place the tube/hose assembly against the fitting body so that the flat face of the flange tube/hose comes in full contact with the O-ring. Thread the nut onto the fitting body by hand and tighten it to the recommended torque shown in the table below.

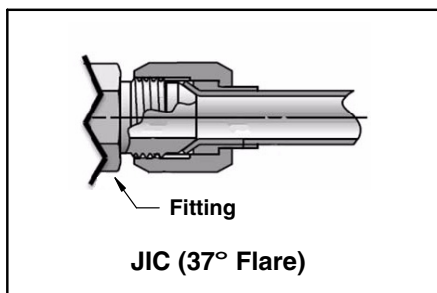


OD in.	SAE Dash Size	Tube Side Thread Size (UN/UNF)	Tube Side Assembly Torque SAE Dash (+10% - 0%)	
			in lb	ft lb
1/4	-4	9/16-18	220	18
3/8	-6	11/16-16	360	30
1/2	-8	13/16-16	480	40
5/8	-10	1-14	--	60
3/4	-12	13/16-12	--	85
1	-16	17/16-12	--	110

JIC (37° Flare)

- Tighten the nut lightly with a wrench, clamping the tube flare between the fitting nose and the sleeve [this is considered the **Wrench Resistance (WR)** position].
- Starting from this position, tighten the nut further by the number of flats from the table below or **flats from wrench resistance (FFWR)**.

A flat is referred to as one side of the hexagonal nut and equates 1/6 of a turn.



Tube OD in.	SAE Dash Size	Thread Size	Tube Connection FFWR	Swivel Nut or Hose Connection FFWR
1/4	-4	7/16-20	2 1/2	2
5/16	-5	1/2-20	2 1/2	2
3/8	-6	9/16-18	2	1 1/2
1/2	-8	3/4-16	2	1 1/2
5/8	-10	7/8-14	1 1/2	1 1/2
3/4	-12	1 1/16-12	1 1/2	1 1/4
7/8	-14	1 3/16-12	1 1/2	1 1/4
1	-16	1 5/16-12	1 1/2	1

See rear page for tube & thread size reference chart.

Tube & Thread Size Reference Chart

Reference Tube and Thread Sizes					
Tube OD (in.)	SAE Dash Size	Straight Thread Port O-Ring Seal (ORB)	Tapered Thread Port (NPTF)	O-Ring Face Seal (ORFS)	JIC (37° Flare)
1/4	-4	7/16-20	1/4-18	9/16-18	7/16-20
5/16	-5	1/2-20	---	---	1/2-20
3/8	-6	9/16-18	3/8-18	11/16-16	9/16-18
1/2	-8	3/4-16	1/2-14	13/16-16	3/4-16
5/8	-10	7/8-14	---	1-14	7/8-14
3/4	-12	1 1/16-12	3/4-14	1 3/16-12	1 1/16-12
7/8	-14	1 3/16-12	---	---	1 3/16-12
1	-16	1 5/16-12	1-11 1/2	1 7/16-12	1 5/16-12

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