

Keep With Operator's Manual

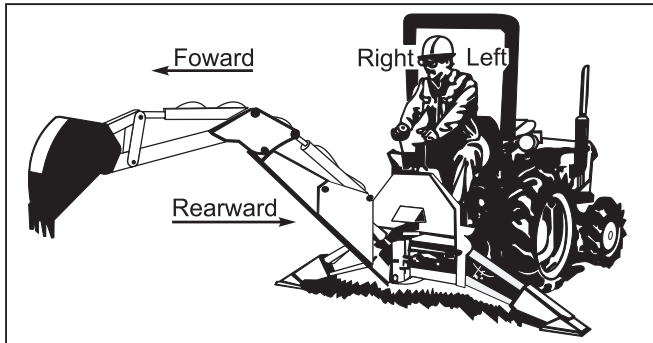
BACKHOE MOUNTING KIT ALAMO SMC & RHINO 60C, 65A, 75, 75C, 85, & 85C John Deere 870, 970, & 1070 Tractors

TRACTOR AND SUBFRAME KIT GENERAL INFORMATION

Subframe kit can be installed on tractor using tools ordinarily available, including an over head hoist and sling, floor jack, standard and metric wrenches and a torque wrench.

Complete backhoe mounting requires subframe channel kit 2-6509. Tractor must be equipped with Alamo SMC, Rhino loader, or Kubota LA703 front end loader.

IMPORTANT: Remove linch pins and disconnect supports to disable 3-point hitch arms.



NOTE: References to right, left, forward and rearward directions are determined from the backhoe operator seat position facing rearward.



The backhoe is shipped partially assembled. Assembly will be easier if components are aligned and loosely assembled before tightening hardware.



Keep all persons away from operator control area while performing adjustments, service, or maintenance.



Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and may cause serious injury or death.



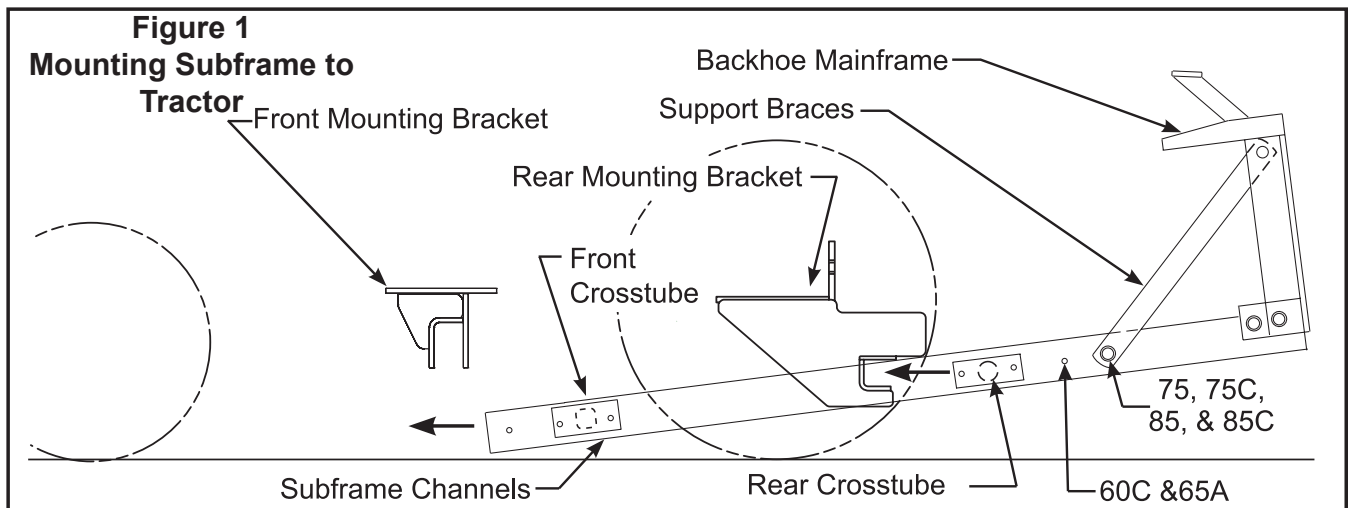
Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result.



CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.

Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head and respirator or filter mask where appropriate.

NOTE: Leave all attaching hardware loose until the mounting kit is completely assembled to facilitate the assembly and proper alignment. Tighten all hardware to torques specified in general torque specifications table.

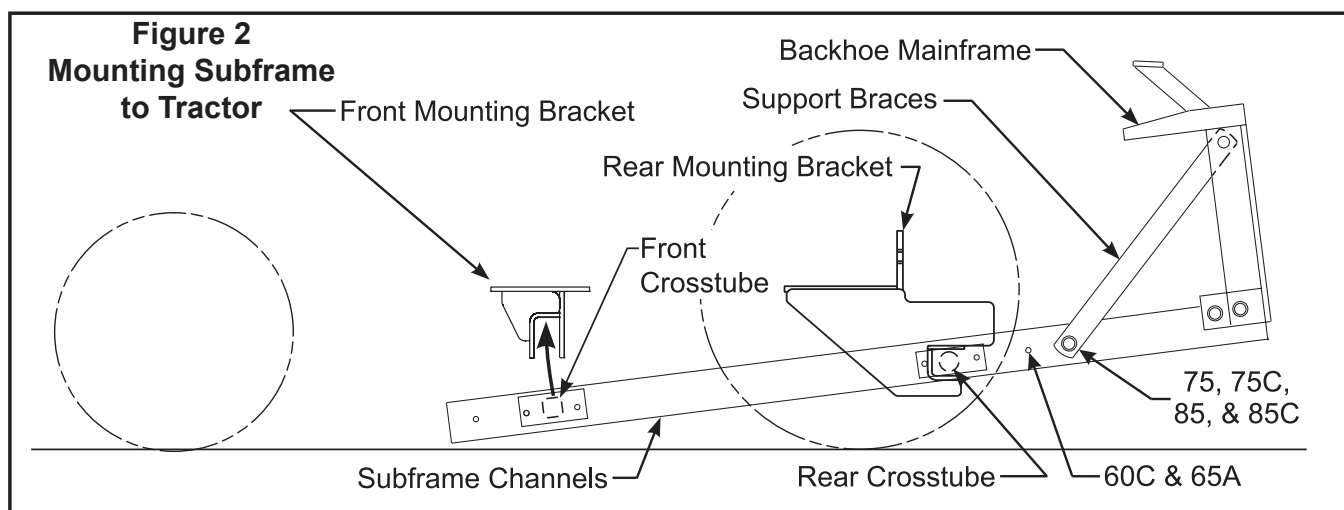


REAR HANGER BRACKET INSTALLATION (Figure 3)

1. Remove the pin securing the drawbar to tractor and remove drawbar. Using a floor jack, hold the rear hitch assembly against the tractor axle housing casting while removing the 14 mm x 30 mm metric cap screws (18) from the underside of the axle housing near the drawbar bracket securing it. Relieve pressure on floor jack, lower tractor original rear hitch assembly, and move rear hitch assembly to the side. It will not be reused. Keep the hardware for installation.
2. Secure the subframe rear mounting bracket (1) to the underside of the axle housing using metric hardware just removed (10 & 18) along with 14 mm x 2.0 x 45 mm cap screws (9), 9/16" lock washers (10), & 5/8" lock washers (26). Torque hardware to value specified in torque table (Page 6). Install drawbar and secure with pin.

FRONT BRACKET INSTALLATION (Figure 3)

1. If tractor is equipped with loader remove it. Place a sling around right loader mid mount assembly (28). Using an overhead hoist, secure right loader mid mount assembly (28) and remove the four 16 mm x 45 mm cap screws (9) attaching it to tractor frame. Move right mid mount assembly (28) out of way and lower to the floor. Place a sling around left loader mid mount assembly (27). Using an overhead hoist, secure left loader mid mount assembly (27) and remove the two 16 mm x 45 mm cap screws (9) from lower holes attaching it to tractor frame. Loosen two upper left 16 mm x 45 mm cap screws (11). Tilt left loader mid mount (27) to permit insertion of two 5/8 x 1-3/4" cap screws (24) into the two lowest holes in the loader mid mount bracket from the backside. Attach the subframe front mount assembly (with diagonal cut on plate toward front of tractor) (3) to the outside of left loader mid mount assembly (27) with 5/8 x 1-3/4" cap screws (24) and 5/8" lock nuts (25). Leave hardware loose.
2. Use sling and hoist and move right loader mid mount assembly (28) to tractor. Install 5/8 x 1-3/4" cap screws (24) to lowest holes in right mid mount assembly (28) and then thru subframe front mount assembly (2). Secure with 5/8" lock nuts (25). Mount right loader mid mount assembly (27) to tractor frame using 16 mm x 45 mm cap screws (9) in top holes and 16 mm x 60 mm cap screws (11), & 9/16" lock washers (10) in the lower holes. Insert 16 mm x 60 mm cap screws (11) & 9/16" lock washers (10) in the lower holes of the left loader mid mount assembly (27). Torque hardware. Remove sling and overhead hoist.



INSTALLING SUBFRAME TO BACKHOE (Figure 3)

1. Install front and rear crosstubes (3 & 4) to channels (19 & 20) using 1/2 x 1-1/2 cap screws (8) and 1/2 lock nuts (7).

NOTE: *Install front and rear crosstubes (3 & 4) in holes as illustrated in figure 3.*

2. Install subframe assembly to backhoe mainframe using 7/8 x 4 cap screws (15), 7/8 lock washers (17) and 7/8 nuts (16) in rear holes and 3/4 x 3-1/2 cap screws (13) and 3/4 lock nuts (14) in front holes.
3. Install support braces (21) onto subframe using 3/4 x 2-3/4 cap screws (22) and 3/4 lock nuts (23) in channels (19 & 20) on backhoe mainframe. See figure 2 for proper location depending on backhoe model being mounted.

60C ONLY: Use support braces 55882 (27) & 55883 (28).

NOTE: *Double nut cap screw (items 23) after torquing first nut to 350 ft.-lbs (475 N•M).*

MOUNTING BACKHOE TO TRACTOR

1. Back tractor up to backhoe and center mount between the tractor rear tires. Position tractor so that the hydraulic system can be connected. Shut off tractor, set brake, and remove key.
2. Attach backhoe hydraulic system.
3. With the tractor PTO and transmission in neutral, start the engine and run at low idle. Hydraulic power is provided when the tractor is started.

NOTE: *Very little engine power is required to operate the hydraulic system in this mode. Should the engine pull down excessively, check the plumbing hookup for reversed lines or a control level stuck in an operating position.*

NOTE: *You will use the backhoe hydraulics to maneuver the backhoe into position. Use care in this procedure to avoid being trapped between tractor and backhoe or between backhoe parts.*

4. Using backhoe hydraulic controls, extend stabilizer cylinders and boom cylinder until rear crosstube (4) is level with rear mounting bracket (1) and front of subframe is on ground (Figure 1).
5. Slowly back tractor until rear crosstube (4) is seated in rear mounting bracket (1).
6. Retract boom cylinder and stabilizer cylinders so front of subframe swings up until front crosstube (3) is seated in front mounting bracket (2) (See figure 2).
7. Secure front crosstube in place using pins (5) and lynch pins (6).
8. Start tractor and cycle backhoe cylinders to remove air. Put backhoe into transport position and engage the swing lock, boom lock, and stabilizer lock (if equipped). Shut off tractor, remove key. Check tractor or auxiliary reservoir level. Replenish according to hydraulic fluid specified in tractor operator's manual.

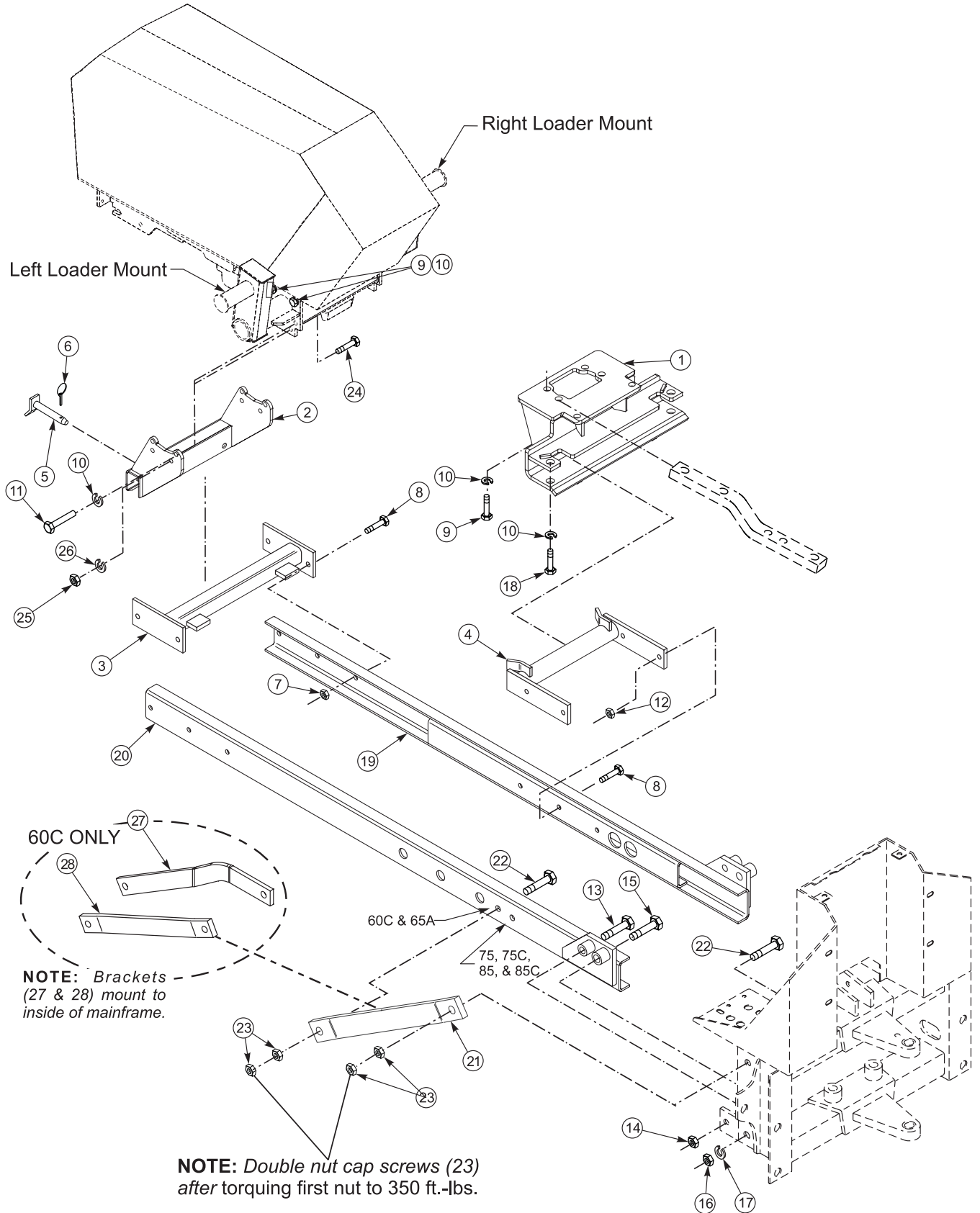
2-6586**PARTS LIST – SUBFRAME MOUNTING KIT**

Item	Part No.	Description	Qty.
1	46330	MOUNTING BRACKET, Rear	1
2	46325	MOUNTING BRACKET, Front	1
3	46318	CROSSTUBE BRACKET, Front	1
4	46320	CROSSTUBE BRACKET, Rear	1
5	44892	PIN, Hitch	2
6	44756-1	PIN, Linch	2
7	41840-5	NUT, Lock, 1/2, Type-N	8
8	41838-33	SCREW, Cap, 1/2 x 1-1/2", Grade 5	8
9	6090-41	SCREW, Cap, 14mm-1.5 x 45mm, Class 8.8	8
10	41837-6	WASHER, Lock, 9/16"	8
11	6090-100	SCREW, Cap, 16mm-2 x 60mm	4
12	41837-5	WASHER, Lock, 1/2"	6
13	41838-43	SCREW, Cap, 3/4 x 3-1/2", Grade 5	2
14	41840-8	NUT, Lock, 3/4, Type-N	8
15	G271819	SCREW, Cap, 7/8 x 3", Grade 5	2
16	41836-9	NUT, Lock, 7/8	2
17	41837-9	WASHER, Lock, 7/8"	2
18	(Tractor Part)	SCREW, Cap, 14mm x 30mm, Class 8.8	2
27	55882	SUPPORT BRACE, Left	1
28	55883	SUPPORT BRACE, Right	1

PARTS LIST – SUBFRAME CHANNEL KIT – 2-7253 – Order Separately

Item	Part No.	Description	Qty.
19	51195-1	CHANNEL, Subframe, Left	1
20	51195-2	CHANNEL, Subframe, Right	1
21	44836	BAR, Support Brace	2
22	42969-4	SCREW, Cap, 3/4-10 x 2-3/4, Grade 8	4
23	47264-8	NUT, Lock, 3/4-10, Grade C	8
24	G271548	HHCS 5/8 x 1-3/4	2
25	G9414075	HLN 5/8	2
26	49636-2	WASHER, Lock 5/8	2

Figure 3
Subframe Mounting Kit



GENERAL TORQUE SPECIFICATIONS

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

Standard American and Metric Cap Screws

AMERICAN STANDARD CAP SCREWS									METRIC CAP SCREWS								
SAE Grade	5				8				Metric Class	8.8				10.9			
Typ. Head Markings									Typ. Head Markings								
Cap Screw	TORQUE				TORQUE				Cap Screw	TORQUE				TORQUE			
Size	FT-LBS		N-m		FT-LBS		N-m		Size	FT-LBS		N-m		FT-LBS		N-m	
Inches	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	Millimeters	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1/4 - 20	6.25	7.25	8.5	10	8.25	9.5	11	13	M6 x 1.00	6	8	8	11	9	11	12	15
1/4 - 28	8	9	11	12	10.5	12	14	16	M8 x 1.25	16	20	21.5	27	23	27	31	36.5
5/16 - 18	14	15	19	20	18.5	20	25	27	M10 x 1.50	29	35	39	47	42	52	57	70
5/16 - 24	17.5	19	23	26	23	25	31	34	M12 x 1.75	52	62	70	84	75	91	102	123
3/8 - 16	26	28	35	38	35	37	47.5	50	M14 x 2.00	85	103	115	139	120	146	163	198
3/8 - 24	31	34	42	46	41	45	55.5	61	M16 x 2.50	130	158	176	214	176	216	238	293
7/16 - 14	41	45	55.5	61	55	60	74.5	81	M18 x 2.50	172	210	233	284	240	294	325	398
7/16 - 20	51	55	69	74.5	68	75	92	102	M20 x 2.50	247	301	335	408	343	426	465	577
1/2 - 13	65	72	88	97.5	86	96	116	130	M22 x 2.50	332	404	450	547	472	576	639	780
1/2 - 20	76	84	103	114	102	112	138	152	M24 x 3.00	423	517	573	700	599	732	812	992
9/16 - 12	95	105	129	142	127	140	172	190	M27 x 3.00	637	779	863	1055	898	1098	1217	1488
9/16 - 18	111	123	150	167	148	164	200	222	M30 x 3.00	872	1066	1181	1444	1224	1496	1658	2027
5/8 - 11	126	139	171	188	168	185	228	251	NOTE: These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphite or moly sulphide greases or other extreme lubricants are used.								
5/8 - 18	152	168	206	228	203	224	275	304									
3/4 - 10	238	262	322	355	318	350	431	474									
3/4 - 16	274	305	371	409	365	402	495	544									
7/8 - 9	350	386	474	523	466	515	631	698									
7/8 - 14	407	448	551	607	543	597	736	809									
1 - 8	537	592	728	802	716	790	970	1070									
1 - 14	670	740	908	1003	894	987	1211	1337									

37° JIC Fittings

Size	Thread Size	Assembly Torque		Tube Connection F. F. F. T.	Swivel Nut or Hose Connection F. F. F. T.
		in.·lb.	ft.·lb.		
-4	7/16 - 20	140 ± 10	12 ± 1	2	2
-5	1/2 - 20	180 ± 15	15 ± 1	2	2
-6	9/16 - 18	250 ± 15	21 ± 1	1 1/2	1 1/4
-8	3/4 - 16	550 ± 25	45 ± 5	1 1/2	1
-12	1 1/16 - 12	1000 ± 50	85 ± 5	1 1/4	1
-16	1 5/16 - 12	1450 ± 50	120 ± 5	1	1
-20	1 5/8 - 12	2000 ± 100	170 ± 10	1	1
-24	1 7/8 - 12	2400 ± 150	200 ± 15	1	1
-32	2 1/2 - 12	3200 ± 200	270 ± 20	1	1

O-Ring Face Seal Tube/ Hose Swivel Nut

Metric Tube O.D. (mm)	Dash Size	Thread Size (in.)	Swivel Nut Hex Size (in.)	Swivel Nut Torque	
				N-m	lb·ft
5	-3	--	--	--	--
6	-4	9/16 - 18	11/16	16	12
8	-5	--	--	--	--
10	-6	11/16 - 16	13/16	24	18
12	-8	13/16 - 16	15/16	50	37
16	-10	1 - 14	1-1/8	69	51
20	-12	1-3/16 - 12	1-3/8	102	75
22	-14	1-3/16 - 12	--	102	75
25	-16	1-7/16 - 12	1-5/8	142	105
32	-20	1-11/16 - 12	1-7/8	190	140
38	-24	2 - 12	2-1/4	217	160
50.8	-32	--	--	--	--

SAE O-Ring Fittings

Size	Swivel Nut or Hose	Assembly Torque		F. F. F. T.
		in.·lb.	ft.·lb.	
2	5/16 - 24	90 ± 5	7.5 ± 0.5	1 ± .25
3	3/8 - 24	170 ± 10	14 ± 1	1 ± .25
4	7/16 - 20	220 ± 15	18 ± 1	1 ± .25
5	1/2 - 20	260 ± 15	22 ± 1	1 ± .25
6	9/16 - 18	320 ± 20	27 ± 2	1.5 ± .25
8	3/4 - 16	570 ± 25	48 ± 2	1.5 ± .25
10	7/8 - 14	1060 ± 50	90 ± 5	1.5 ± .25
12	1 1/16 - 12	1300 ± 50	110 ± 5	1.5 ± .25
14	1 3/16 - 12	1750 ± 75	145 ± 6	1.5 ± .25
16	1 5/16 - 12	1920 ± 125	160 ± 6	1.5 ± .25
20	1 5/8 - 12	2700 ± 150	225 ± 12	1.5 ± .25
24	1 7/8 - 12	3000 ± 150	250 ± 12	1.5 ± .25
32	2 1/2 - 12	3900 ± 200	325 ± 15	1.5 ± .25

INSTALLATION INSTRUCTIONS