

Keep with Operator's Manual

BACKHOE SUBFRAME KIT 65A, 75 & 85 BACKHOE MAHINDRA AND SCORPION TRACTORS

MAHINDRA	SCORPION	FWA	ROPS
3510	T300	X	X
4110	T450	X	X

TRACTOR AND BACKHOE GENERAL INFORMATION

Backhoe is compatible with Rhino and SMC 2408TL loader.

Reference to left and right used in these instructions refer to position when seated in the operating position on tractor.



CAUTION: After backhoe is mounted onto tractor, three-point hitch arms must be disabled. Disable hitch by removing pins connecting link arm to lower three-point arms, swinging link arm to side and reinstalling pin to link arm. Lower three-point arms rest on backhoe subframe. Make sure there is clearance between backhoe swing cylinders and three-point arms. Failure to disable three-point arms could result in damage to backhoe if three-point hitch is raised.

Subframe can be installed on tractor and backhoe using tools ordinarily available. Shut off tractor engine and set parking brakes while installing backhoe subframe, mounting kit, and hydraulics.

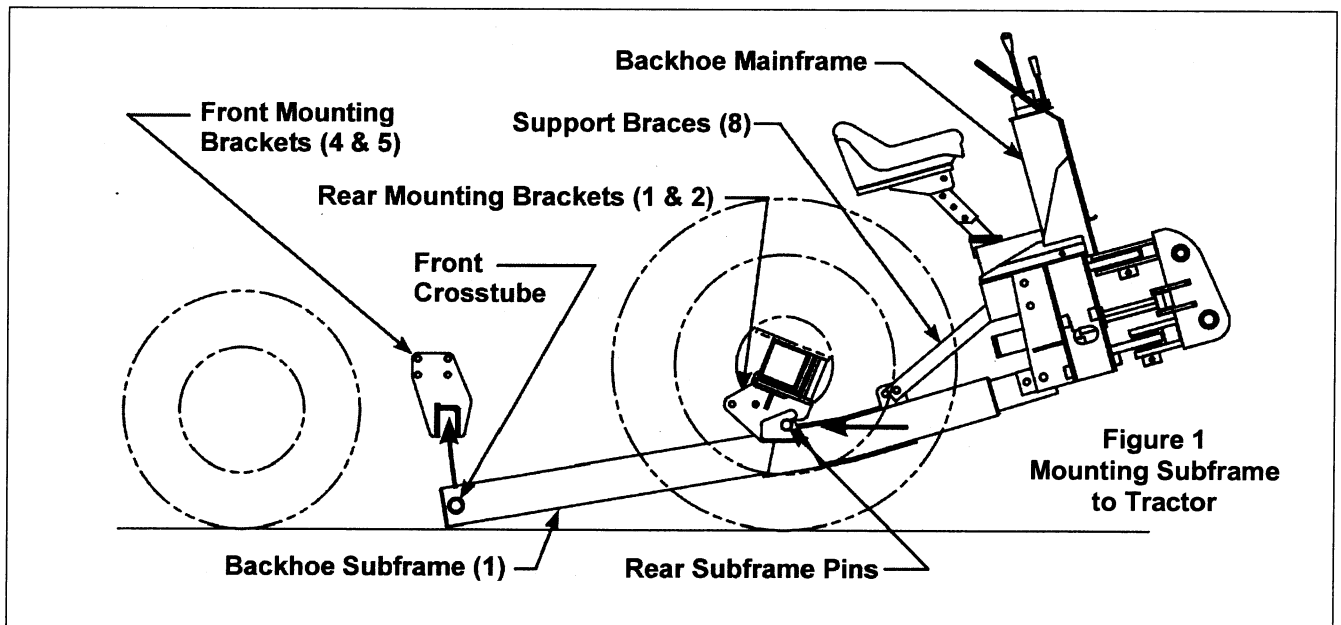
Read backhoe operator's manual and become familiar with backhoe controls before installing subframe. Knowing how backhoe functions is necessary to attach subframe and backhoe to tractor.

INSTALLING SUBFRAME MOUNTING BRACKETS TO TRACTOR (Figures 1 & 2)

NOTE: If tractor is equipped with 2408TL loader, remove axle mount brackets from rear axle and save 5/8" hardware.

1. If tractor is equipped with loader, remove 16mm x 50mm cap screws securing loader mid mounting brackets to transmission housing. Fasten front hanger brackets (4 & 5) to loader left and right mid mounting bracket using 16mm x 70mm cap screws (9) and 5/8" lock washers (11).
2. If tractor is not equipped with loader and front weights are used as counterweight, place spacer plates (6) per side between front hanger brackets (4 & 5) and transmission boss. Fasten using 16mm x 70mm cap screws (9) and 5/8" lock washers (11).

(Continued on Page 4)



**Figure 1
Mounting Subframe
to Tractor**

PARTS LIST – BACKHOE SUBFRAME MOUNTING KIT

Item	Part No.	Description	Qty.
1	53094	MOUNTING BRACKET	1
2	53095-1	HANGER BRACKET, Rear, Left	1
3	53095-2	HANGER BRACKET, Rear, Right	1
4	53096-1	HANGER BRACKET, Front, Left	1
5	53096-2	HANGER BRACKET, Front, Right	1
6	53035	SPACER, Plate, 1/4"	2
7	44836	BAR, Backhoe Support Brace	2
8	52106-2	PLUG, Plastic, Rectangular Tube	4
9	42672-41	SCREW, Cap, Hex Head, 16mm-2.00 x 70mm Class 8.8	4
10	41838-98	SCREW, Cap, Hex Head, 1/2-13 x 7-1/2" Grade 5	8
11	41837-7	WASHER, Lock, 5/8"	4
12	41840-5	NUT, Lock, 1/2-13	8
13	42969-4	SCREW, Cap, Hex Head, 3/4-10 x 2-3/4" Grade 8	4
14	41838-55	SCREW, Cap, Hex Head, 3/4-10 x 3" Grade 5	2
15	41838-53	SCREW, Cap, Hex Head, 7/8-9 x 3"	2
16	41836-9	NUT, Hex, 7/8-9	2
17	41837-9	WASHER, Lock, 7/8"	2
18	47264-8	NUT, Lock, 3/4-10, Grade C	10
19	44892	PIN, Hitch, 3/4" Dia. x 4-13/16" Long	2
20	44756-1	PIN, Linch, 5/16" Dia. x 1-5/8" Long	2

GENERAL TORQUE SPECIFICATIONS

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN







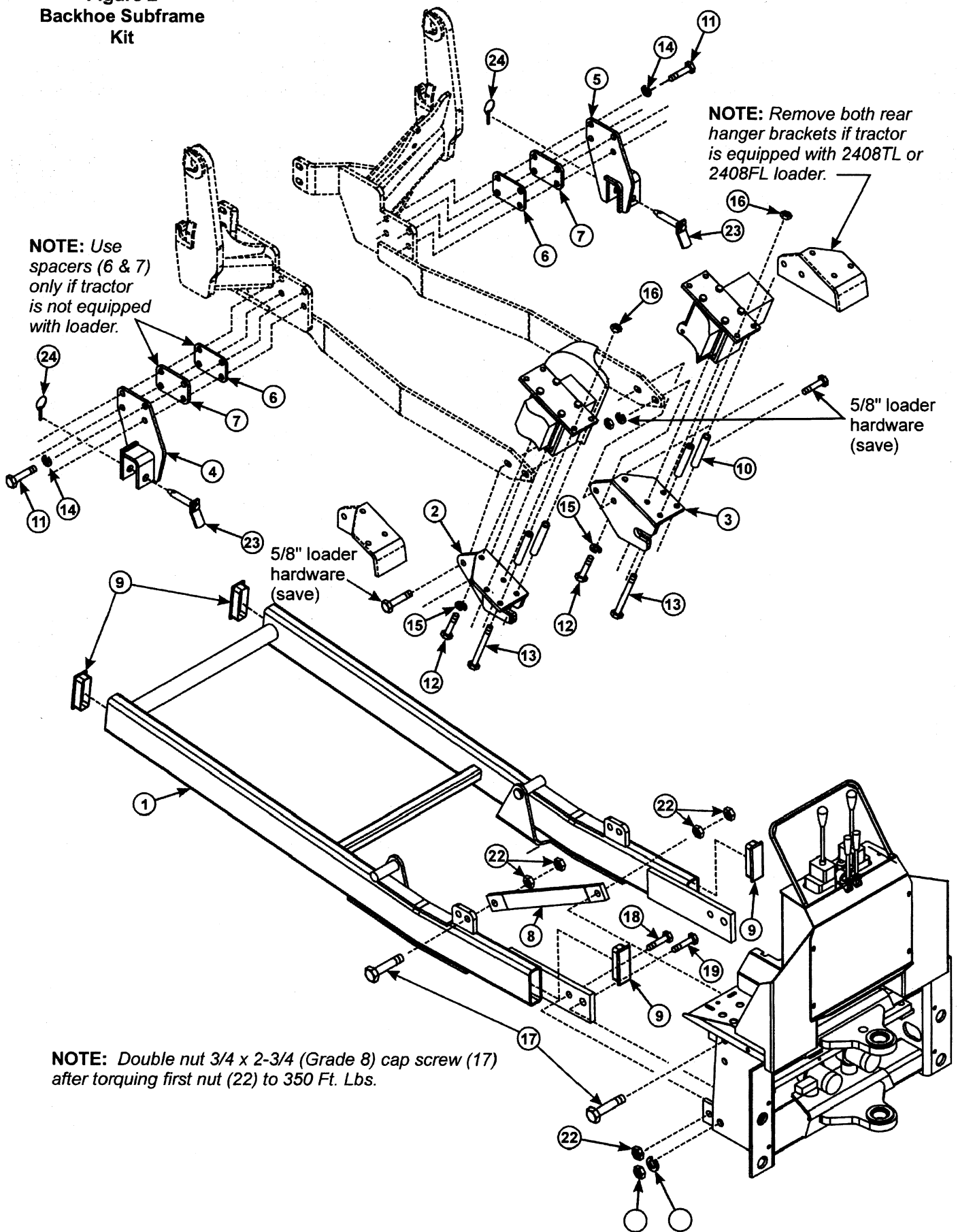
AMERICAN STANDARD CAP SCREWS					METRIC CAP SCREWS								
SAE Grade	5				8				Metric Class	8.8		10.9	
Typical Grade ID Markings on Head									Typical Grade ID Markings on Head	 		 	
Cap Screw	TORQUE												
Size	FT-LBS		N·m		FT-LBS		N·m						
Inches	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX					
1/4-20	6.25	7.25	8.5	10	8.25	9.5	11	13					
1/4-28	8	9	11	12	10.5	12	14	16					
5/16-18	14	15	19	20	18.5	20	25	27					
5/16-24	17.5	19	23	26	23	25	31	34					
3/8-16	26	28	35	38	35	37	47.5	50					
3/8-24	31	34	42	46	41	45	55.5	61					
7/16-14	41	45	55.5	61	55	60	74.5	81					
7/16-20	51	55	69	74.5	68	75	92	102					
1/2-13	65	72	88	97.5	86	96	116	130					
1/2-20	76	84	103	114	102	112	138	152					
9/16-12	95	105	129	142	127	140	172	190					
9/16-18	111	123	150	167									
5/8-11	126	139	171	188									
5/8-18	152	168	206	228									
3/4-10	238	262	322	355									
3/4-16	274	305	371	409									
7/8-9	350	386	474	523									
7/8-14	407	448	551	607									
1-8	537	592	728	802									
1-14	670	740	908	1003									

Figure 2
Backhoe Subframe
Kit



INSTALLING SUBFRAME MOUNTING BRACKETS TO TRACTOR (Figures 1 & 2) (Continued)

3. Fasten rear hanger brackets (2 & 3) to underside of tractor rear axle on each side. Use 12mm x 40mm cap screws (12) and 1/2" lock washers (15) through each bracket (2 & 3) and rear ROPS support plate. Place spacer tubes (10) between ROPS support plate and rear hanger top plate (2 & 3). Slide 1/2 x 7.50 cap screws (13) through rear hanger top plate (2 & 3), spacer tubes (10) and ROPS support plate. Fasten with 1/2" lock nuts (16). Tighten hardware to torques specified in general torque specifications table on page 2.
4. If tractor is equipped with 2408TL loader mounts, refasten mid mount support rails to left and right rear hanger brackets (2 & 3) using 5/8" hardware saved previously. Install hydraulic pump kit or hose kit. Refer to instructions provided with hydraulic pump kit to install hydraulic pump, hoses and fittings.

INSTALLING BACKHOE SUBFRAME TO BACKHOE FRAME (Figures 1 & 2)

1. Install plastic end plugs (8) into front and rear ends of rectangular tubes, which form longitudinal members of backhoe subframe (1).
2. Fasten subframe (1) to backhoe mainframe using 7/8 x 3" cap screws (15), lock washers (17), and hex nuts (16) in rear holes, and 3/4 x 2-3/4" cap screws (13) and lock nuts (18) in front holes.
3. Fasten support braces (7) to backhoe main frame and to lugs on subframe (1) using 3/4 x 2-3/4" cap screws (13) and lock nuts (18), with double nuts (22)? on 3/4 x 2-3/4 cap screws (13) at both ends of each support brace (7).

NOTE: For model 75 or 85 backhoe, use rearmost set of holes in subframe lugs; for model 65A backhoe, use forward set of holes.

IMPORTANT: Double-nut 3/4 x 2-3/4" cap screws (13) with 3/4" lock nuts (18) after torquing first nut to 350ft. lbs (475N m). Tighten all other hardware to torques specified in general torque specifications table on page 2.

MOUNTING BACKHOE TO TRACTOR (Figures 1 & 2)

1. Back tractor toward backhoe, with tractor straddling subframe, until positioned so PTO hydraulic pump kit can be connected to backhoe control valve. Shut off tractor engine, set brakes, and make sure PTO is disengaged. Connect PTO pump to tractor.
2. Start tractor and engage PTO. Tractor should be running at low idle. Using backhoe controls, lower stabilizer and bucket to ground to provide a base for raising subframe. Using backhoe controls, continue lowering stabilizers and backhoe boom to raise subframe to proper level height to connect to tractor.
3. Back tractor and position rear subframe pins so they will engage completely into rear hanger brackets (2 & 3). Gradually lower backhoe mainframe so front cross shaft engages into front hanger brackets (4 & 5).
4. Install hitch pins (19) through front hanger brackets (4 & 5) to secure subframe in place. Secure hitch pins (19) using linch pins (20).

INSTALLATION INSTRUCTIONS