

Keep with Operator's Manual

## BACKHOE SKID-STEER QUICK-ATTACH ADAPTER KIT 65A BACKHOE DAEWOO SKID-STEER LOADERS

DAEWOO SKID-STEER MODELS

450, 460

### BACKHOE SKID-STEER ADAPTER KIT GENERAL INFORMATION

Adapter kit can be installed on skid-steer using tools ordinarily available.

References to left and right used in these instructions refer to position when seated in operating position on skid-steer.

This adapter kit consists of a skid-steer compatible quick-attach adapter, which fastens to a 65A backhoe, together with turnbuckles, cylinder stops, and attaching hardware, which stabilize backhoe and prevent skid-steer lift or tilt operation while backhoe is mounted. Parts are designed to allow quick and easy mounting and dismounting of backhoe from skid-steer, leaving minimal hook brackets (to which turnbuckles attach) at front slope skid-steer frame. Hook brackets do not interfere with other uses of skid-steer, so removal is optional.



**WARNING:** To avoid injury while mounting or dismounting backhoe from skid-steer, do not allow bystanders within ten feet of skid-steer or backhoe.

Lower and level skid-steer boom to rest on ground before installing adapter kit and backhoe. Shut off engine and engage brakes during installation.

### INSTALLING QUICK ATTACH ADAPTER TO BACKHOE (Figure 1)

1. With backhoe and pallet containing quick-attach adapter (1) on firm level ground, place pallet near rear (mounting end) of backhoe main frame, with link pins (10) away from backhoe.
2. Unband backhoe quick-attach adapter (1) from shipping pallet and remove attaching hardware from shipping angles. Remove lag screws which fasten hook-ear brackets (2 & 3) to shipping pallet. Unband parts bag from quick-attach adapter (1).

**NOTE:** For ease of installation, quick-attach adapter (1) is preassembled with all parts except: hook-ears (2 & 3), and hardware (14 & 15) which attach to skid-steer; and hardware (12, 13, 16, 18 & 19) which fasten quick-attach adapter to backhoe.

3. Tip quick-attach adapter (1) up toward backhoe, with link pins (10) up. Fasten quick-attach adapter (1) to backhoe using 7/8 x 2-1/2" cap screws (12), lock washers (16), and hex nuts (18) in bottom pair of holes closest to backhoe, and 3/4 x 1-3/4" cap screws (13), 3/4" lock nuts (19) in remaining two pairs of holes. Refer to general torque specifications table to tighten hardware to applicable torques.

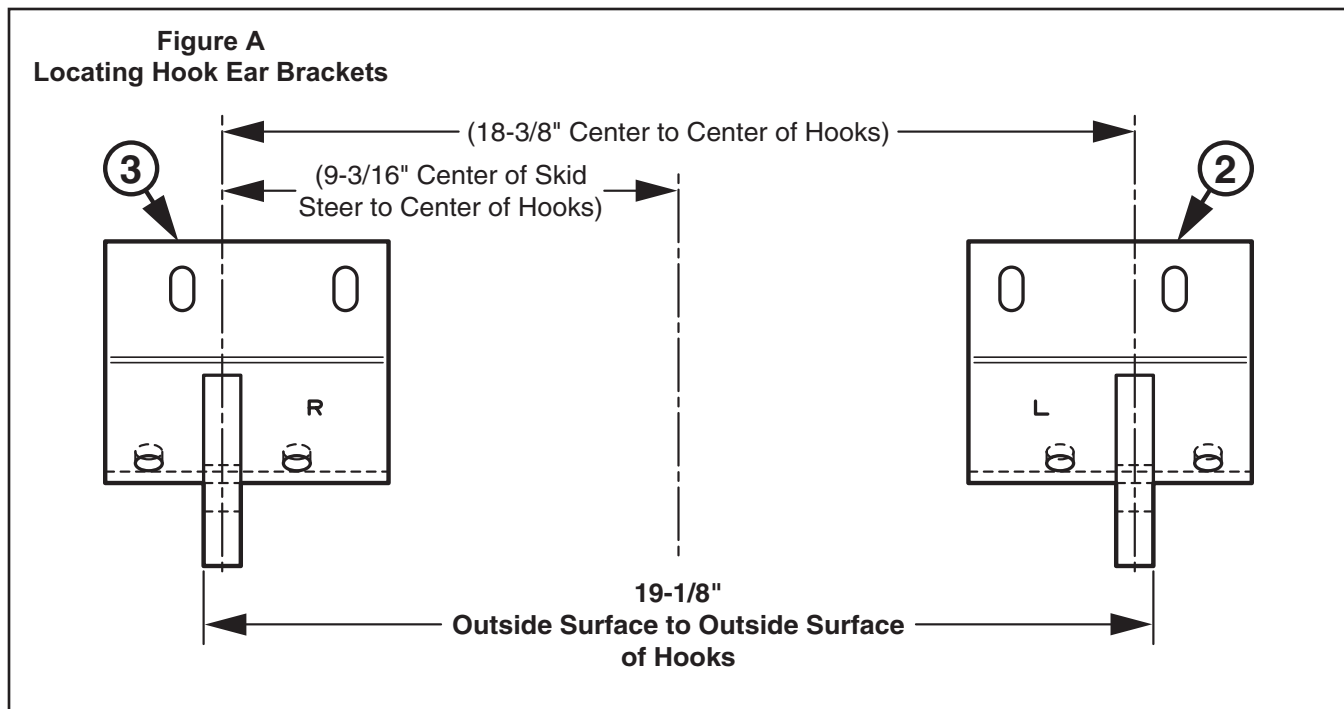
### ATTACHING HOOK-EAR BRACKETS TO SKID-STEER

**NOTE:** Hook ears (2 & 3) are bolted to front and downward sloping surface of skid steer chassis. Holes already exist in upper right front of frame to locate right hook ear (3), but additional holes will need to be drilled as described below to allow installation of hook ears.

1. Raise skid-steer boom up and shut off engine.

**IMPORTANT:** Engage skid-steer boom cylinder lock to hold skid steer boom in raised position.

2. Temporarily remove skid-steer floor plate to allow access to back side of skid-steer chassis.
3. On right side of skid-steer, remove bolts securing loader lock-out cable brackets to chassis, noting all spacers and their locations. Fasten right hook ear (3) to these holes and to cable bracket using 7/16 x 2" cap screws (15), flat washers (17) and lock nuts (21). Hook of right ear (3) is offset to right with open end of hook facing downward.
4. Use hook brackets as templates to drill remaining holes in skid-steer chassis necessary to attach them to skid-steer chassis. Place left hook ear (2) so hooks are equidistant from center of skid-steer and center of left hook is at 18-3/8" from center of right hook, or distance from outside surface to outside surface of hooks is 19-1/8". See Figure A on following page. Drill .53 diameter holes for bottom two holes in each bracket and on left side drill .47 diameter holes for upper two holes of bracket.
5. Use 1/2 x 1/2 cap screws (14) and lock nuts (20) in lower holes and 7/16 x 2" cap screws (15), flat washers (17) and lock nuts (21) in upper holes.



#### ATTACHING HOOK-EAR BRACKETS TO SKID-STEER (Continued)



**CAUTION:** Make sure skid-steer boom cylinder lock is engaged. Check for proper operation of skid-steer loader lock-out on control cables before tightening bolts.

5. Tighten all hardware to torques specified in general torque specifications table.
6. Reinstall skid-steer floor plate.
7. Start skid-steer and lower boom.

#### MOUNTING BACKHOE ONTO SKID-STEER

1. Extend tilt cylinders and install cylinder stops (4) using 1/2 x 3-1/2" clevis pins (5) and 3/16" linch pins (6). To prevent damage to tilt cylinder grease fitting, position stop so clevis pin is forward.
2. Attach skid-steer quick-attach to quick-attach adapter (1) and backhoe. Latch locking quick-attach pins of skid-steer. Visually inspect attachment mechanism to verify pins are engaged through latch plate of quick-attach adapter.

**NOTE:** If quick attach adapter is not securely engaged, detach and try again to attach backhoe.

3. Connect backhoe hydraulic hoses to skid-steer auxiliary hydraulic quick couplers. Refer to instructions provided with backhoe hydraulic kit to couple hoses. It may be necessary to carefully operate backhoe boom and dipperstick to move

quick-attach adapter more toward vertical or to lower skid-steer boom completely down.

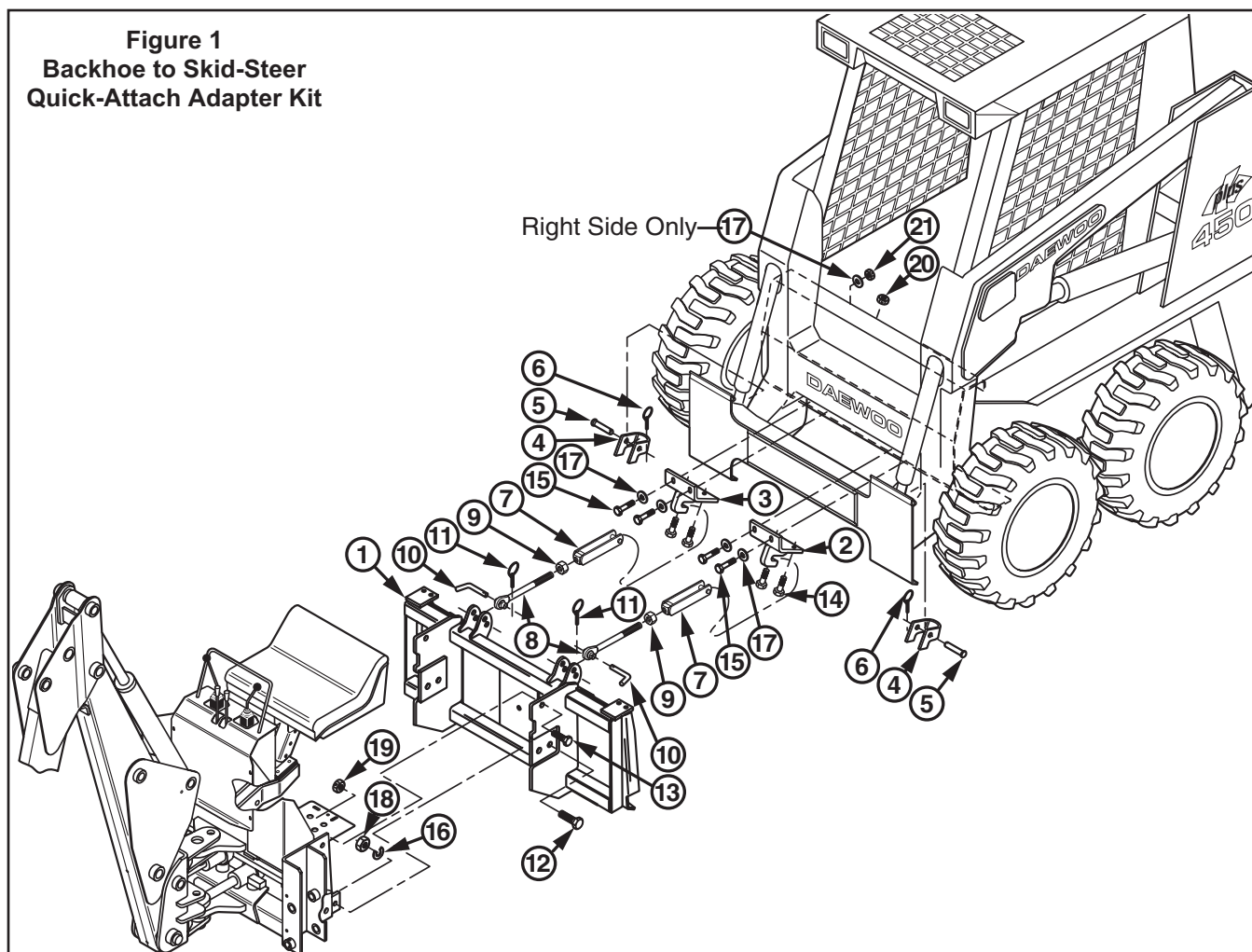
4. Start engine and activate backhoe hydraulics. Check backhoe for proper function.
5. Raise backhoe boom and stabilizers into transport position. Lower skid-steer boom completely down.
6. Using skid-steer tilt cylinder, tilt backhoe rearward until tilt cylinder head contacts cylinder stop (4).

**NOTE:** If skid-steer lacks sufficient hydraulic power to tilt backhoe rearward, lower backhoe boom to ground and place backhoe boom function lever in float position. Then reattempt tilting backhoe.

7. Turn links (7) of turnbuckle assemblies either direction to lengthen or shorten turnbuckles to appropriate length, as necessary, to secure links (7) to hook ears (2 & 3). Use 1" hex nut (9) as a jam nut to jam link (7) in place at required turnbuckle length. Use 3/4" link pin (10) and 5/16" linch pin (11) to fasten link quick attach adapter. Use upper set of holes in adapter.

**NOTE:** If backhoe and quick-attach adapter have been mounted on skid-steer and turnbuckle was adjusted to proper length previously, it is not necessary to readjust turnbuckle length. It will be necessary to temporarily unfasten linch pins (11) and link pins (10) at turnbuckles rod-eye temporarily to hook link ends (7) of turnbuckle assemblies to hook ears (2 & 3).

**Figure 1**  
**Backhoe to Skid-Steer**  
**Quick-Attach Adapter Kit**



**PARTS LIST – BACKHOE SKID-STEER QUICK-ATTACH ADAPTER KIT**

Item	Part No.	Description	Qty.
*1	52877	BRACKET, Backhoe Quick-Attach Adapter	1
2	52871-1	BRACKET, Hook-Ear, Left	1
3	52871-2	BRACKET, Hook-Ear, Right	1
*4	52874	STOP, Cylinder	2
*5	41902-21	PIN, Clevis, 1/2 x 3-1/2"	2
*6	44756-2	PIN, Linch, 3/16 x 1-1/4"	2
*7	50976	LINK, Turnbuckle Assembly	2
*8	50987	ROD EYE, Turnbuckle Assembly	2
*9	41836-20	NUT, Hex, 1-8	2
*10	51006-1	PIN, Link, 3/4 Diameter x 6-11/16" Long	2
*11	44756-1	PIN, Linch, 5/16 Diameter x 1-5/8" Long	2
12	41838-45	SCREW, Cap, 7/8-9 x 2-1/2"	2
13	41838-30	SCREW, Cap, 3/4-10 x 1-3/4"	4
14	42969-11	SCREW, Cap, 1/2-13 x 1-1/2" Grade 8	4
15	42969-16	SCREW, Cap, 7/16-14 x 2" Grade 8	4
16	41837-9	WASHER, Lock, 7/8"	2
*17	42502-9	WASHER, Flat, 7/16" SAE	6
18	41836-9	NUT, Hex, 7/8-9	2
19	41840-8	NUT, Lock, 3/4-10	4
*20	41840-5	NUT, Lock, 1/2-13	4
*21	41840-4	NUT, Lock, 7/16-14	4

\* Items are preassembled to backhoe quick-attach mounting plate.

**DISMOUNTING BACKHOE FROM SKID-STEER**

1. Remove linch pins (11) and link pins (10) from rod eye (8) end of turnbuckle assemblies. Turnbuckle will drop out of quick-attach adapter ears and hooks. Reattach turnbuckle rod-eye (8) to ears on quick-attach adapter using link pins (10) and linch pins (11) for storage of parts.
2. Start skid-steer engine. With backhoe boom straight back, install swing lock pin. Extend dipperstick completely out and lower backhoe boom and bucket to ground.
3. Lower backhoe stabilizers to ground. Stabilizers will support detached backhoe.
4. From inside skid-steer, shut off skid-steer engine and set parking brake. Operate control lever for



**WARNING:** For proper support of backhoe, do not place boom control lever in float position. Place boom control handle in center, neutral, position.

skid-steer auxiliary quick coupler forward and back to relieve pressure in backhoe and skid-steer hydraulic lines. Uncouple backhoe hydraulic couplers.

**NOTE:** If desired, right and left hook ears (2 & 3) and attaching hardware may be removed from skid-steer chassis at this time. However, removal is not required, as hook ears do not interfere with other uses of skid-steer.

5. Turn quick-attach lock pin handles to unlatch (up) position to disengage catch pins from latch plate of quick-attach adapter.
6. Start skid-steer engine, release brake, and extend bucket cylinders while slowly backing skid-steer away from backhoe, until skid-steer quick-attach disengages from backhoe quick-attach adapter.
7. Extend bucket cylinders and shut off engine. Remove cylinder stops (4), clevis pins (5), and linch pin (6) and store with backhoe.

**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	<p><b>NOTE:</b> 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 molysulphide greases or other extreme lubricants are used.</p>								
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									

**INSTALLATION INSTRUCTIONS**