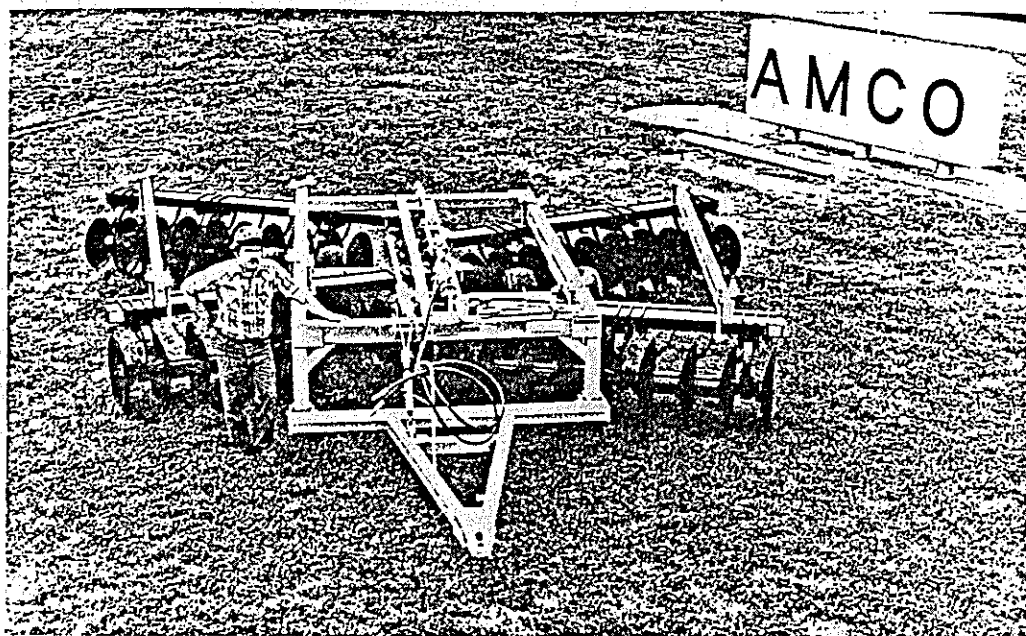




**R300 DOUBLE OFFSET
PARTS CATALOG
OPERATION - MAINTENANCE - SET-UP
INSTRUCTIONS**



PRODUCTS

Portable Elevator Division, Dynamics Corporation of America
No. 1 AMCO Drive, Yazoo City, Mississippi 39154 / 601/745-4454



TO THE PURCHASER

The care you give your new AMCO R300 Double Offset Tandem Disk Harrow will greatly determine the satisfaction and service you will obtain from it. By observing the instructions and suggestions in this manual, your AMCO R300 Harrow will serve you well for many years.

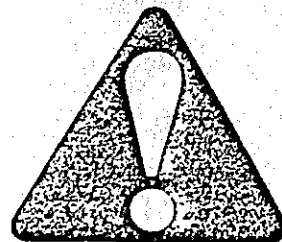
As an Authorized AMCO Dealer, we stock Genuine AMCO Parts, which are manufactured with the same precision and skill as the original equipment. For best performance and longer life use only Genuine AMCO replacement parts. Our factory trained staff is kept fully informed of the most efficient methods of servicing AMCO equipment and is ready and able to assist you.

When you sell your R300 Harrow you should pass this manual to the new owner.

If you should require additional aid or information, contact us.

YOUR AUTHORIZED AMCO DEALER

OSHA requires that as a farm employer you meet certain safety requirements. Become familiar with and comply with those requirements. Be sure anyone who operates this equipment understands all safety related items. If this implement is repainted, be certain new decals are ordered. Decals pertaining to personal safety must be replaced.



Look for this symbol to point out important safety precautions. It means —ATTENTION! Become alert! Your safety is involved.

Remember, the right and left hand sides of the harrow are determined by standing at the rear of the harrow and facing the direction of travel. To insure efficient and prompt service, please provide the model number of your AMCO Harrow in all correspondence or contacts. AMCO always strives to make improvements on equipment. AMCO is not responsible for changes or additions to equipment previously sold.

MODEL NUMBER

SERIAL NUMBER

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DOUBLE OFFSET PLOWING TANDEM

MODEL "R300" (HEAVY DUTY)

Primary Tillage

STANDARD SPECIFICATIONS

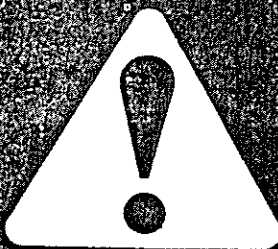
AXLES:	1-1/2" square high carbon cold rolled steel, with sleeve	BEARINGS:	Protect-O-Shield, 2 3/4" round bore regreasable ball type, toggle mounted over sleeve
DISC:	28" x 1/4" plain, backups standard	WHEELS:	4 — 15 x 10
BLADES:	Diminishing with two feathering blades on rear gangs	CLEVIS:	Heavy duty fabricated (reversible)
SCRAPERS:	High carbon replaceable blades on heavy duty shanks, mounted with grade 5 bolts on 2 1/2" x 2 1/2" x 1/4" tubular bar	WRENCH:	1 for gang bolt, 1 for angle adjustment
TONGUE:	92-1/4" long with tongue jack and fabricated steel clevis	DISC SPACING:	11-1/2"
HYDRAULIC CYLINDERS:	1 — 4" x 16" lift with DIAL-A-DEPTH depth control	ANGLE:	15° to 21° front 17° to 23° rear — Adjustable
		WEIGHT:	240 - 300 lbs/blade 545 - 695 lbs/foot
		TRANSPORT WIDTH:	Cutting width plus 2'

MODEL NO.	Cutting Width	No. of Discs	No. of Bearings	Disc Size and Type	Approximate Drawbar HP Required h.p. (kw)	Approximate Weight lbs (kg)
RIGID MODELS						
R300-2628	11' 2" (3.40m)	26	8	28" PL	120-140 (89-104)	7776 (3527)
R300-3028	13' 0" (3.96m)	30	12	28" PL	140-165 (104-123)	8153 (3698)
R300-3428*	14' 10" (4.52m)	34	12	28" PL	150-180 (112-134)	8878 (4027)
R300-3828*	16' 9" (5.11m)	38	12	28" PL	165-195 (123-145)	9141 (4146)
*Equipped with auxiliary frame and clamps						
OPTIONAL EQUIPMENT						
FA-01-0014	Safety chain 5/16".....Add					9 (4.1)
	Shock absorber gang risers in lieu of standard gang risers, per bearingAdd					23 3/4 (10.7) ea.
	26" x 1/4" cutout blades in lieu of standard 28"Ded					9 1/4 (4.3) ea.
	26" x 1/4" plain blades in lieu of standard 28"Ded					7 1/4 (3.3) ea.
	28" x 1/4" cutout blades in lieu of standard 28"Ded					2 1/4 (1.1) ea.
	26" x 5/16" cutout blades in lieu of standard 28"Ded					
	26" x 5/16" plain blades in lieu of standard 28"Ded					

Recommended tire size 11L x 10, 8 Ply or 12.5L x 10, 8 Ply. Six ply permissible on 11' 2" models.



No. 1 AMCO Drive, Yazoo City, Mississippi 39194 / 601/746-4464
Portable Elevator Division, Dynamics Corporation of America



THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY.



CAUTION: Never stand between tractor and disk harrow when hitching, unless all controls are in neutral and the brakes are locked.



CAUTION: Park or block the disk harrow so it will not roll when disconnected from the tractor drawbar.



CAUTION: When working on disk harrows, care should be exercised in handling or tightening bolts near disk blades to avoid injury.



CAUTION: Always secure for transport by using the lock pin and wing lock pins.



CAUTION: Never clean, adjust or lubricate a disk harrow that is in motion.



CAUTION: Stay out from underneath wing gangs when folding or unfolding.



CAUTION: When transporting machinery over public roads, comply with your local and state laws regarding length, width and lighting.



CAUTION: When trailing the harrow over public roads, the SMV Emblem must be used for protection of tractor and motor vehicle operators.



CAUTION: When transporting farm implements on public roads after dusk, it is the responsibility of the operator to provide lighting and reflectors on the rear of the implement in accordance with your state laws.



CAUTION: All hydraulically or mechanically elevated operating components must be blocked to prevent accidental lowering or must be lowered to the ground when making adjustments or when the equipment is idle.

assembly instructions

AMCO R300 SERIES

The harrow is shipped from the factory with maximum pre-assembly in the following bundles:

- A. Main Frame & Rockshaft
- B. Pull Tongue
- C. Bundle Gang & Frame - Front Right Hand
- D. Bundle Gang & Frame - Front Left Hand
- E. Bundle Gang & Frame - Rear Right Hand
- F. Bundle Gang & Frame - Rear Left Hand
- G. Four 15 x 10 - 6 Bolt Wheels
- H. Auxiliary frames on models 14'10" & larger

Step 1

Select a clear level area to assemble the harrow. Place all parts and bundles where they will be readily accessible during assembly. Remove strapped-on parts from main frame.

NOTE: The right & left hand sides of the harrow are determined by standing at the rear of the harrow and facing the direction of travel.

To insure good alignment of the units and parts, always insert all bolts leaving the nuts loose. Tighten the nuts evenly to prevent misalignment, distortion or binding.

Step 2

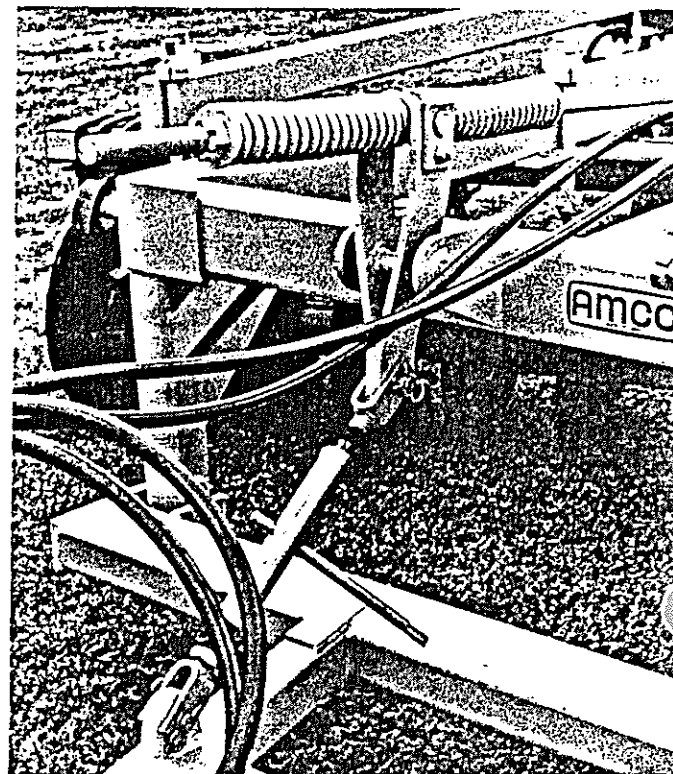
Place main frame on sturdy stands at least 30" high. Place on front and rear to clear gang frames.



CAUTION: Use sturdy stands to prevent frame from falling.

Step 3

Attach pull tongue using holes in the main frame. Tighten bolts. Attach ratchet jack to pivot bracket on front of main frame. Connect stabilizer to opposite end to pivot bracket and to right hand rockshaft. Attach hose holder to pull tongue.

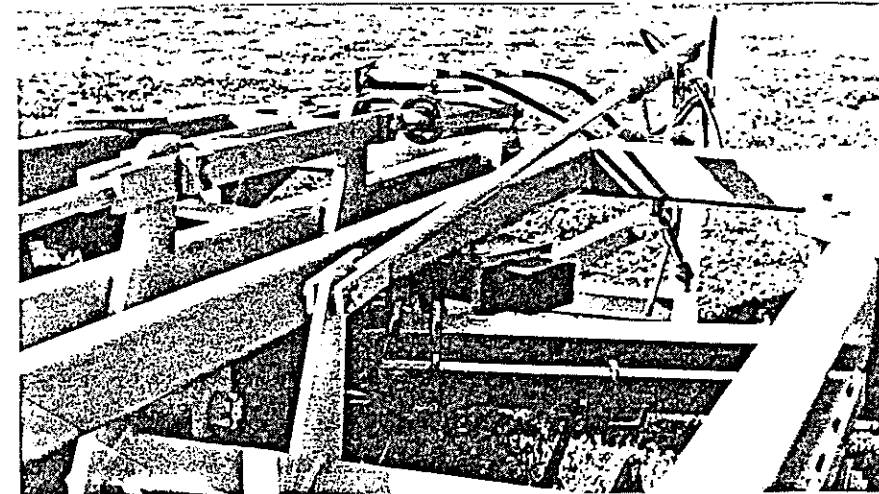


STEP 4

Mount the spindles and hubs on the rockshaft legs. Insert proper bolts and tighten. Refer to page 20 for proper torque. Mount 11L x 10, 8 ply or 12.5L x 10, 8 ply tires and tubes on 15 x 10 wheels. Six ply tires are permissible on 26 blade models only. Inflate 8 ply tires to 32 psi and 6 ply tires to 24 psi. Bolt the wheels to the hubs. Tighten hub nuts evenly to assure wheel alignment.

Caution: Failure to use proper tires and inflation pressures could cause a serious accident due to tire failure in transport.

STEP 5

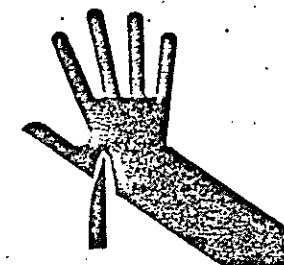


Install a 4 x 16 hydraulic cylinder to the harrow. Connect the butt end to the cylinder mount on the main frame and the rod end to the tie link. Tie link should connect hydraulic cylinder, left hand rockshaft, right hand rockshaft, and depth control rod. Depth control rod must be inserted through depth control stop mounted on rear of main frame. Attach dial-a-depth to end of depth control rod. Install hydraulic hoses from the cylinder to the tractor.

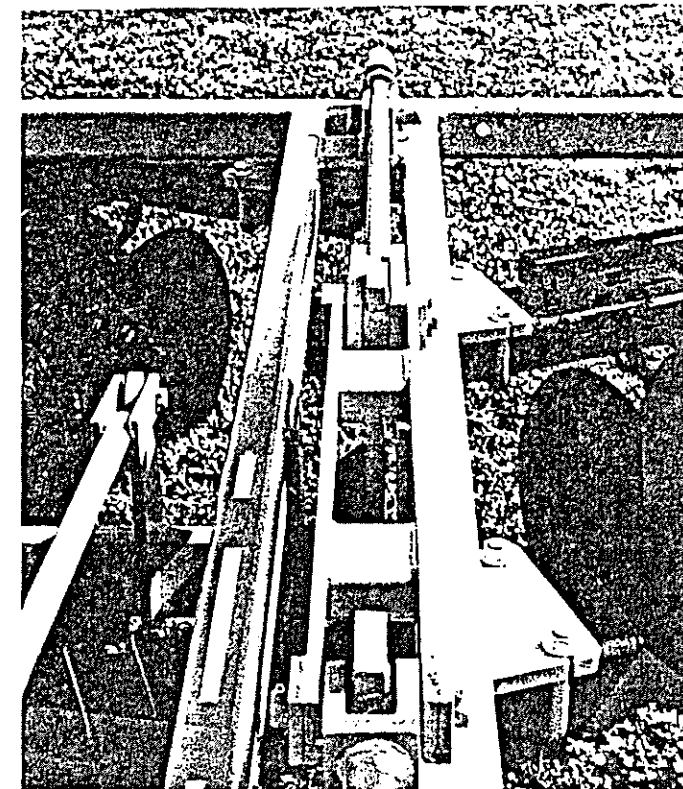
STEP 6

Raise the harrow up on the wheels by activating the hydraulic cylinder. Pin off in transport position using transport pin located in depth gauge rod. **NOTE:** The transport pin should be installed before attempting to mount gangs and frames. Remove all clamps, clamp caps and U bolts from main frame.

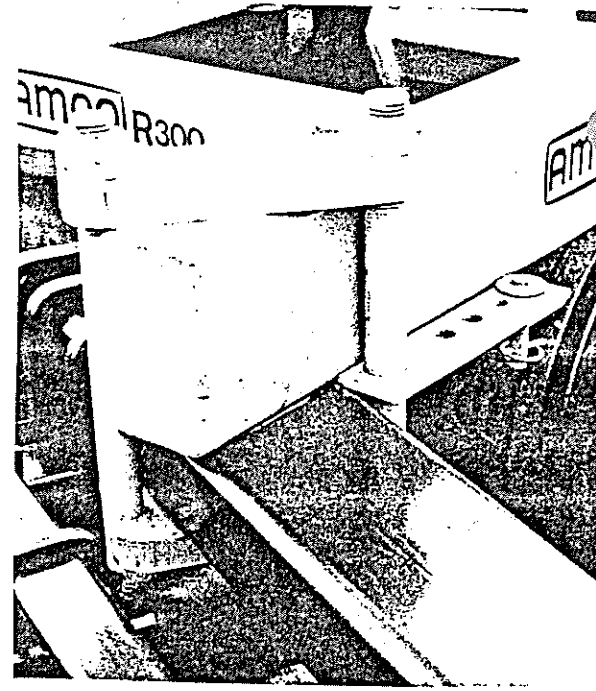
WARNING



Handle bolts near disk blades with care

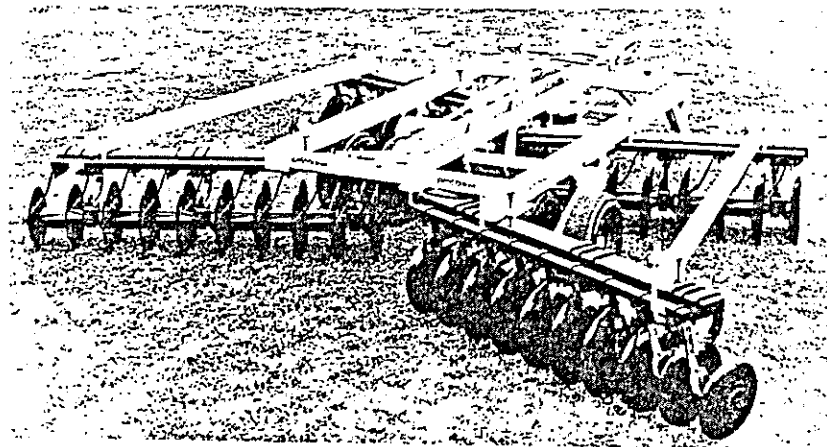


Attach the two front gang assemblies to the main frame using clamps, clamp caps and U bolts. Be sure clamp proceeds through angle set bracket attached to main frame by a retainer pin. The gangs should be located to throw soil away from the center of the harrow. Leave U bolts and clamp assemblies loose. Attach the two rear gang assemblies to the main frame using clamps, clamp caps and U bolts. Clamps must proceed through angle set brackets attached to main frame by retainer pins. The gangs should be located to throw soil toward the center of the harrow. Leave U bolts and clamp assemblies loose. For proper dimension placement of gang frame along main frame, refer to the chart and illustration on page . Tighten all nuts.



STEP 7

On models 14'10" and up, attach the two auxiliary frames with clamps and clamp caps.



STEP 8

Final Grooming and Check Points. Check and tighten all nuts and bolts. Be sure all cotter pins are properly spread and all pins in place. Check the gangs to see that they rotate freely.

Be sure that the harrow is properly lubricated.

Adjust the harrow for front to rear leveling.

Check scraper adjustment. Scrapers should be adjusted to run 1/16" to 1/8" from disk blades.

Lubrication

Careful and regular attention to lubrication will greatly increase the life of the harrow. For economical and efficient operation, the proper lubrication of frame fittings, gang bearings, and wheel bearings is essential.

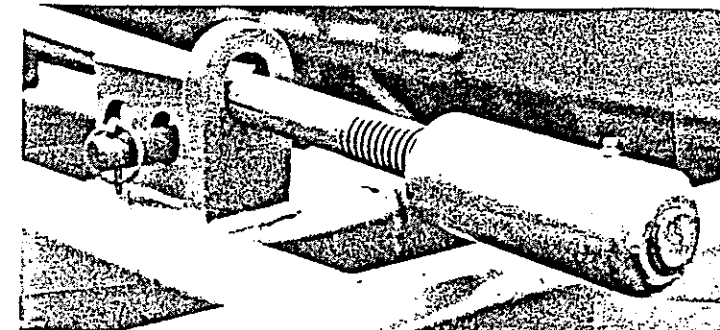
Be sure fittings are free of dirt before greasing. If a fitting is lost or damaged, replace immediately. Lubricate all parts thoroughly with a good grade No. 2 gun grease (Lithium base).

Miscellaneous working parts not provided with lubrication fittings should be oiled occasionally with a good grade of lubrication oil.

Rockshaft Pivot Pins: High carbon steel pins with a grease fitting in each, join each rockshaft to the main frame. These pins(2) should be greased each week or fifty (50) hours of operation. Pivot pins should also be greased at the beginning and end of each disking season. Bushings should be checked each season and replaced when worn.

Turnbuckle and Stabilizer Rod: The tongue turnbuckle and the swivel on the stabilizer rod should be greased every 50 hours of operation and at the beginning and end of each disking season.

Gang Bearings; The AMCO R300 Disk Harrow gangs are equipped with regreasable Protect-O-Shield ball bearings. The grease fitting is located on the rear of each bearing housing. During operation they should be greased daily with a good grade of lithium soap base grease. Never use greases which contain metallic additives. Always make sure that grease is clean and not contaminated with dirt or other foreign matter. Apply grease until old or dirty grease is purged from the bearings. Protect-O-Shield bearings should be greased until grease "pops" out around the bearing. All bearings should be greased at the beginning and end of each disking season. To protect the seals from the elements raise the harrow on its wheels and slowly spin the gangs so the grease wraps around the seals.



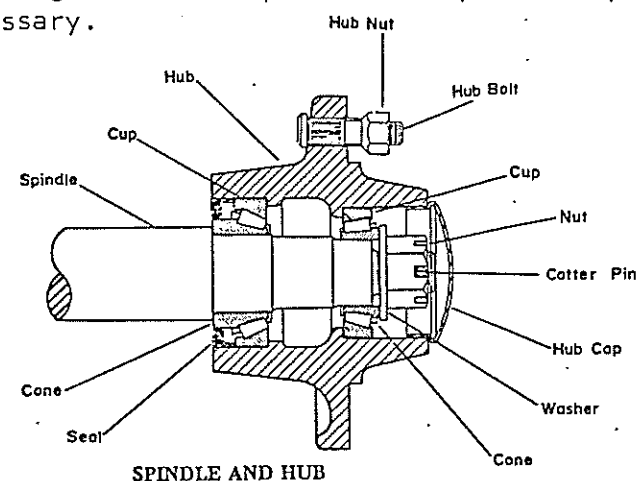
Dial-A-Depth: The dial-a-depth located on the end of the depth gauge rod should be greased every 50 hours of operation. Also, at the beginning and end of each disking season.

Wheel Hub Bearing: The wheel hubs are equipped with tapered roller bearings. These hubs are packed with grease and adjusted at the factory. They should be repacked and the spindle nut properly adjusted each disking season or every 300 hours of operation. Under extreme conditions, they should be serviced more frequently. Check occasionally for excessive end play. Adjust as required to eliminate excessive end play.

maintenance

WHEEL BEARING REPAIR: Wheel bearings should be repacked with grease and adjusted annually. Under extreme conditions, they should be serviced more frequently. Check occasionally for excessive end play.

To disassemble the hub, remove the dust cap by prying around it. Remove the cotter pin, slotted nut and flat washer. Carefully remove the hub and bearings from the spindle. Inspect all parts for wear and replace if necessary.



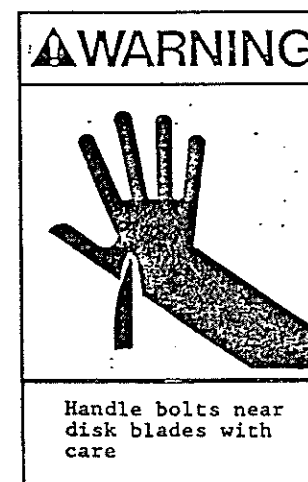
Use the following procedure when repairing or servicing wheel hubs:

1. Clean all parts that are to be re-used.
2. Carefully inspect the metal case on the grease seal. Discard seal if case is bent or damaged. Check seal lips for cuts, tears and excessive wear. The hubs use the inner bearing race (cone) as the sealing surface. Make sure the seal fits snugly on this surface. The seal must be replaced if excessively worn.
3. Carefully inspect both sets of bearing cones. Bearing bore and rollers must be smooth and free of nicks and scratches. Replace cones if damaged.
4. Inspect hub to make sure that hub bolts have a good thread. Bearing cups must be smooth and free of surface blemishes. Cups must be removed from the hub and replaced if damaged. Cups should be fully pressed into the hub and rest squarely against the shoulder inside the hub. Hub cap and grease seal should fit snugly inside the hub. Severely damaged hubs should be replaced.
5. Threads on spindle must be in good condition. Bearing cone seats must be smooth and free of blemishes. Bearing cones must fit squarely on spindle.

6. Spindle washer, slotted nut, cotter pin and hub cap must be in good condition. Replace if worn or damaged.
7. To reassemble the hub, repack each bearing cone with grease and fill the hub cavity 1/3 full of grease. Place inner bearing assembly in hub, press grease seal into the hub and carefully re-install the hub on the spindle. Install the outer bearing assembly into the hub, and replace the spindle washer and slotted nut. Tighten the slotted nut, to seat the bearings, until the hub binds when rotated. Check seal lips to be certain they are turned out to exclude contamination.
8. Back the slotted nut off to the nearest slot. Rotate the hub five or six revolutions in each direction to seat all parts. Re-tighten the slotted nut while rotating the hub. When the hub binds, back the slotted nut off to the nearest slot and secure with a cotter pin. Install dust cap and re-mount wheel on hub.

GANG REPAIR:

1. With the harrow in its "Down" or working position, loosen the gang bolt nut. It is helpful to clean the threads of all bolts with a wire brush and apply penetrating oil before removing the nuts.
2. Remove the nuts that secure the gang to the bearing riser.
3. Remove the trunion clamps.
4. Raise the harrow on its wheels. The entire gang can then be rolled away from the harrow. In most cases time can be saved by removing the scraper bars and scrapers.
5. Remove the gang bolt nut and end washer.
6. Remove the blades, spacer spools and bearings being careful not to damage the threads on the gang bolt.
7. Tear the entire gang down and clean all parts. Check disk axle for straightness. Bowed, bent or worn axles must be replaced.
8. Check spacer spools for damage caused by running disk with loose gangs or hitting underground obstructions. Replace spools if they are damaged.
9. Carefully check all end bells. The large end must contact the disk blade around the entire circumference of the end bell. The small end must be smooth and perpendicular to the axle. The end bells must be replaced if they are cracked or worn on the surface adjacent to the bearing.




10. Check all disk blades for cracks, wear and other damage. Replace worn or damaged disk blades. Check sleeves for wear or other damage. Replace worn or damaged sleeves.
11. Check all the bearings on the gang. Running a harrow for one hour or more after a bearing failure will seriously damage other bearings on the gang. This damaged bearing will then fail within a few hours after the failed bearing has been replaced. Continued operation with this failed bearing will damage the new bearing thus it will fail after a few hours use. In most cases it will be best to replace all bearings on a gang when it is torn down for repair. A triple lip sealed bearing should always be used for bearing replacement. Also, a regreasable type bearing should always be used.
12. To replace a bearing, the snap ring must be removed. The old bearing should then be pressed out of the housing. Clean and wash out old grease and carefully check the housing. Replace the housing if it is damaged. Check the Protect-O-Shield washers. Replace if they show wear near the inner race of the bearing or show other damage. Do Not use the harrow without the washers being installed. Press the new bearing straight into the housing. Always press against the outer race of the bearing. NEVER press against the seal or inner race of the bearing. The small grease hole must align with the grease groove in the bearing housing. Rotate the bearing in the housing after it is pressed in to be sure it turns freely. Install the snap ring in the housing.
13. After cleaning, checking and replacing all damaged parts, the gang should be assembled. Be sure the grease fittings in the bearing housing face to the rear. Be sure the snap ring in the bearing housing is turned toward the convex (back) side of the disk blades. The 1 1/2" square gang bolt nut should be torqued to 1200 FT/LBS. The axle nut should be locked in place with the lock strap.
14. After the gang is assembled it should be attached to the harrow. The bearing risers should be carefully spaced to match the bearing housings. Poorly spaced bearing risers will overload the bearings and cause premature failure. The gang should be rotated 4 or 5 complete revolutions to be sure that all parts are aligned and the gang turns freely.
15. During operation the bearings should be greased daily with a good grade of clean, lithium soap base grease. Refer to LUBRICATION Section on gang bearings on page 7 for proper lubrication procedure.
16. It is essential that gang bolts be kept tight to prevent axle bending, blade breakage, spacer spool breakage and damage to other gang parts. Gang parts tend to wear on a bevel when the harrow is operated with a loose gang bolt. This reduces the area of contact between mating gang parts. Therefore, it is often difficult to keep a gang bolt tight if it has been operated in a loose condition. After such a gang bolt has been properly torqued it should be retorqued after about 30 minutes of operation, again after 4 or 5 hours of operation and again after 8 to 10 hours of use. This will assure that proper gang bolt tension is maintained while the mating components are reseating. If the gang bolt will not stay tight, the gang should be completely disassembled and all parts carefully inspected. All damaged parts should be replaced

SCRAPER REPAIR: Bent scraper bars or shanks should be replaced or straightened if possible. The blades can be replaced when they wear to the extent they are not performing properly. Keep the blades adjusted from 1/16" to 1/8" from the disk blades. The scrapers can be adjusted by loosening the mount bolt and sliding the scraper to the proper position then tightening the mount bolt. Additional adjustment can be obtained by loosening the scraper bar mount bolts and shifting the entire scraper bar. Do not allow the scraper blades to run on the spacer spools as immediate damage to the spool will occur.

ROCKSHAFT PIVOT PIN REPAIR: The rockshafts are equipped with replaceable, regreasable, bronze bushings. If properly lubricated they should last for several seasons. The bushings should be checked each disking season for excessive pivot pin or bushing wear. Worn bushings and pivot pins should be replaced. Failure to replace worn or damaged parts will damage other parts.

HYDRAULIC CYLINDER REPAIR:

1. Remove hoses and fittings from cylinder.
2. Remove cylinder from harrow and clean outside of cylinder.
3. Dis-assemble cylinder by removing the nut from end of cylinder rod. Slip piston and gland off cylinder rod.
4. Carefully clean and inspect all parts for wear or damage. Bent parts, nick, scratches or blemishes on rod and inside barrel will cause internal leaks and should be smoothed with fine steel wool or emory cloth. Replace parts that cannot be repaired. Wear marks on one side of the rod or barrel is a sign of side load on the cylinder. Check cylinder mounts and make necessary repairs to prevent misalignment or binding.
5. Remove all "O" Rings from piston and gland. Replace all seals with new parts.
6. Assemble cylinder using care to prevent damage to "O" Rings and Seals.
7. Replace cylinder on harrow and attach hoses.



CAUTION ~~Hydraulic systems are highly pressurized. Escaping hydraulic oil, even an invisible pinhole leak, can penetrate body tissues causing serious injury. Use a piece of wood or cardboard when looking for leaks—never use the hands or other parts of the body. Relieve hydraulic pressure before disconnecting circuits. When reassembling, make absolutely certain that all connections are tight. If injured by hydraulic oil escaping under pressure, see a doctor immediately. Serious infection or reaction may occur if medical attention is not given at once.~~

storage

Proper storage will add to the life of your disk harrow, and assure its being in good condition for the next season. The following procedure is recommended.

Clean off all foreign matter, and thoroughly lubricate the harrow. (See LUBRICATION INSTRUCTIONS).

Tighten loose bolts and replace any damaged or missing parts.

Repaint the harrow where the original paint has worn off.

Coat the disk blades and hydraulic cylinder rod with a good rust preventative.

Store in a dry place, with the gangs resting on boards to remove weight from the tires.

Carefully rotate each gang and check for worn or damaged blades, bent gang shafts, worn scrapers, damaged bearings and other parts which may need replacing.

Whenever disk blades or bearings are replaced, the gang shaft nuts must be torqued to 1200 foot pounds.

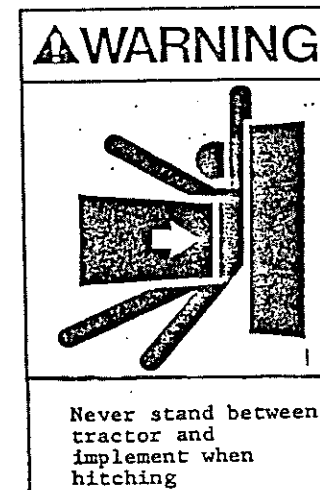
operating instructions

Disk as deep as necessary to do a thorough job, but do not try to disk to an excessive depth. In most conditions the AMCO harrow has sufficient weight for good penetration. In some cases the tires should be used to gauge harrow depth.

Never allow soil to "bulldoze" ahead or flow over the spacer spools. Cutting depth should be controlled to avoid this situation. Maintaining proper cutting depth will have the following advantages.

1. Increased gang bearing life.
2. Reduced strain on harrow frame and related parts.
3. Reduced load on tractor engine and drive train.
4. Lower fuel consumption due to less load on tractor engine.
5. Reduced wheel slippage and rear tractor tire wear due to lower load.
6. Increased travel speeds due to less wheel slippage.

By properly controlling cutting depth, gang bearing life will be increased with more acres covered per day at a lower cost.



IMPORTANT! Never operate disk with gang frame clamps loose. Angle set brackets are designed for angle location only.

ADJUSTMENTS FOR LEVEL DISKING

Six factors must be considered when level disking is required. They are (1) depth of cut, (2) tractor speed, (3) tongue ratchet jack rod length, (4) gang angle adjustments, (5) lateral gang adjustments, and (6) soil conditions.

CENTER RIDGE

If a ridge of soil is left behind the center of the harrow, decrease the weight on the rear gangs by shortening the tongue ratchet jack, decrease the angle of the rear gangs, increase the angle of the front gangs, or move the rear gangs farther apart, or do a combination of all four.

CENTER FURROW

If a furrow is left behind the center of the harrow, increase the weight on the rear gangs by lengthening the tongue ratchet jack, increase the angle of the rear gangs, decrease the angle of the front gangs, or move the rear gangs closer together, or do a combination of all four.

OUTER RIDGES OR FURROWS

If ridges or furrows are left behind the outer ends of the harrow, change the weight on the rear gangs by adjusting the length of the tongue ratchet jack, or change the front or rear gang cutting angle. You may have to change tractor speeds.

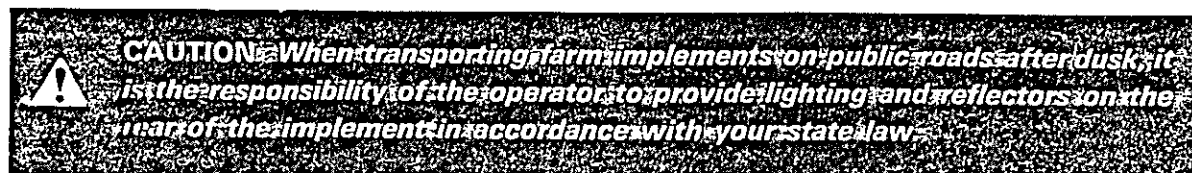
TRACTOR SPEED

Speeds above 6 MPH may result in forming ridges and furrows. Lateral adjustment of the rear gangs and reducing gang angle helps overcome this problem.

IMPORTANT: When adjusting gang angle make sure the gang frame mount bolts are torqued properly before use. Refer to the torque chart. After operating the disk harrow for a few hours the bolts should be rechecked for proper torque.

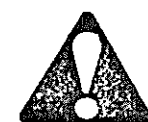
ROAD TRANSPORT

Extreme caution must be exercised when the disk is transported on roads or highways. Remember you are responsible for compliance with state and local laws regarding lighting, reflectors, and SMV emblems, as well as length and width.



CAUTION: Use proper implement safety chain during transport prevent a serious accident from loss or failure of transport pin.

Prior to road transport, check tire pressure making sure they are properly inflated. Also, be sure all hub bolts and nuts are tight. Hub bearings should be properly adjusted. The drawbar pin must be in good condition and secured in place to withstand shock loads. The drawbar must also be secured to prevent swinging from side to side.



CAUTION: Failure to use proper tires and inflation pressures could cause a serious accident due to tire failure in transport.

operating tips

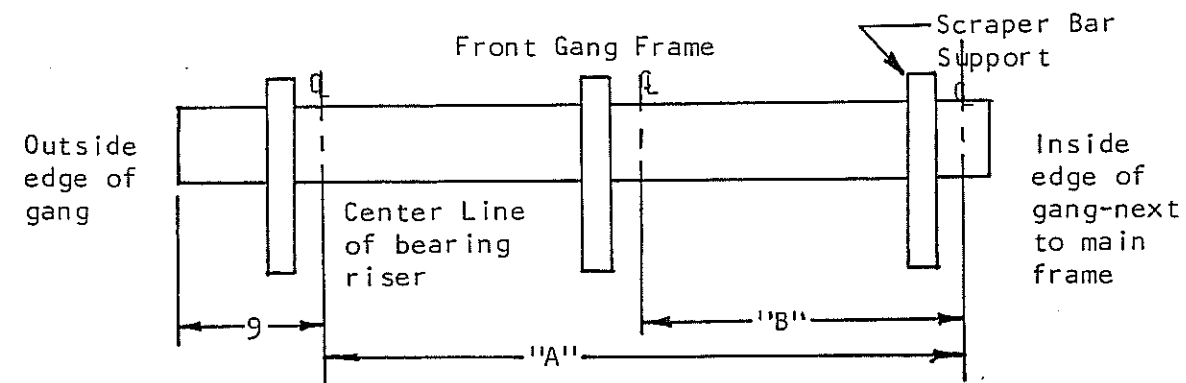
OPERATING TIPS FOR LONG LIFE AND SATISFACTORY PERFORMANCE

1. Match the harrow with the proper size tractor. Too much horsepower and speed will result in excessive maintenance cost.
2. Lubricate with clean grease at the recommended intervals.
3. Use good quality tires, hoses, and hydraulic cylinders.
4. Use the tongue adjusting rod, proper cutting depth, and travel speed to get level disking and smooth fields.
5. Wash corrosive materials such as fertilizer and herbicides from the disk when it is not in use.
6. Insist on genuine AMCO replacement parts. Items such as bearings and blades look alike but are not as reliable as original equipment.
7. Never allow unsafe conditions or operating practices. Your safety is of prime importance.
8. Raise the disk harrow on its transport wheels when turning. Failure to do so will result in broken blades, bent axles, and excessive strain on the tongue and main frame.
9. Reduce operating speed in areas containing stumps or rocks to reduce blade breakage.

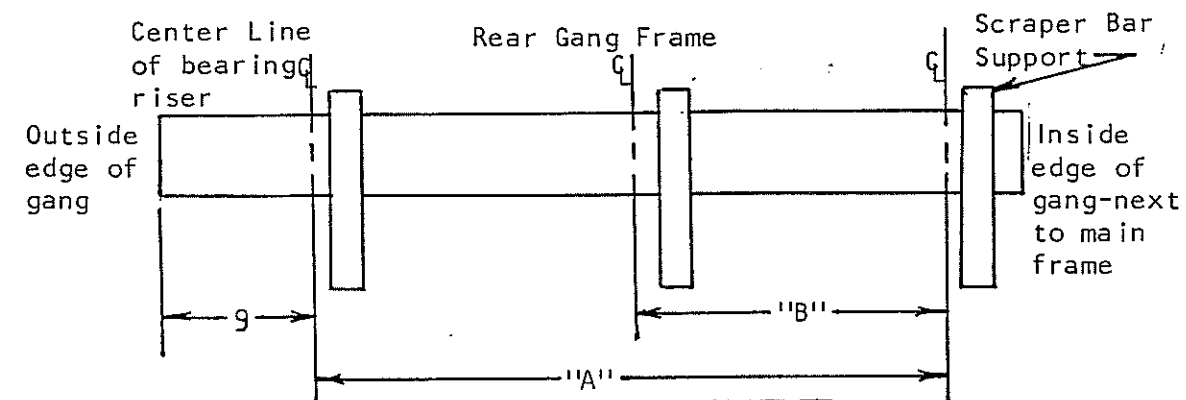
MODEL R300
26 - 38 Blade

Position of Scraper Bar Supports

IMPORTANT: Scraper and scraper bar is mounted on each support. In the diagram below the left hand is shown, the right hand is opposite. Remember, the right and left hand sides of the harrow are determined by standing at the rear of the harrow and facing the directions of travel.



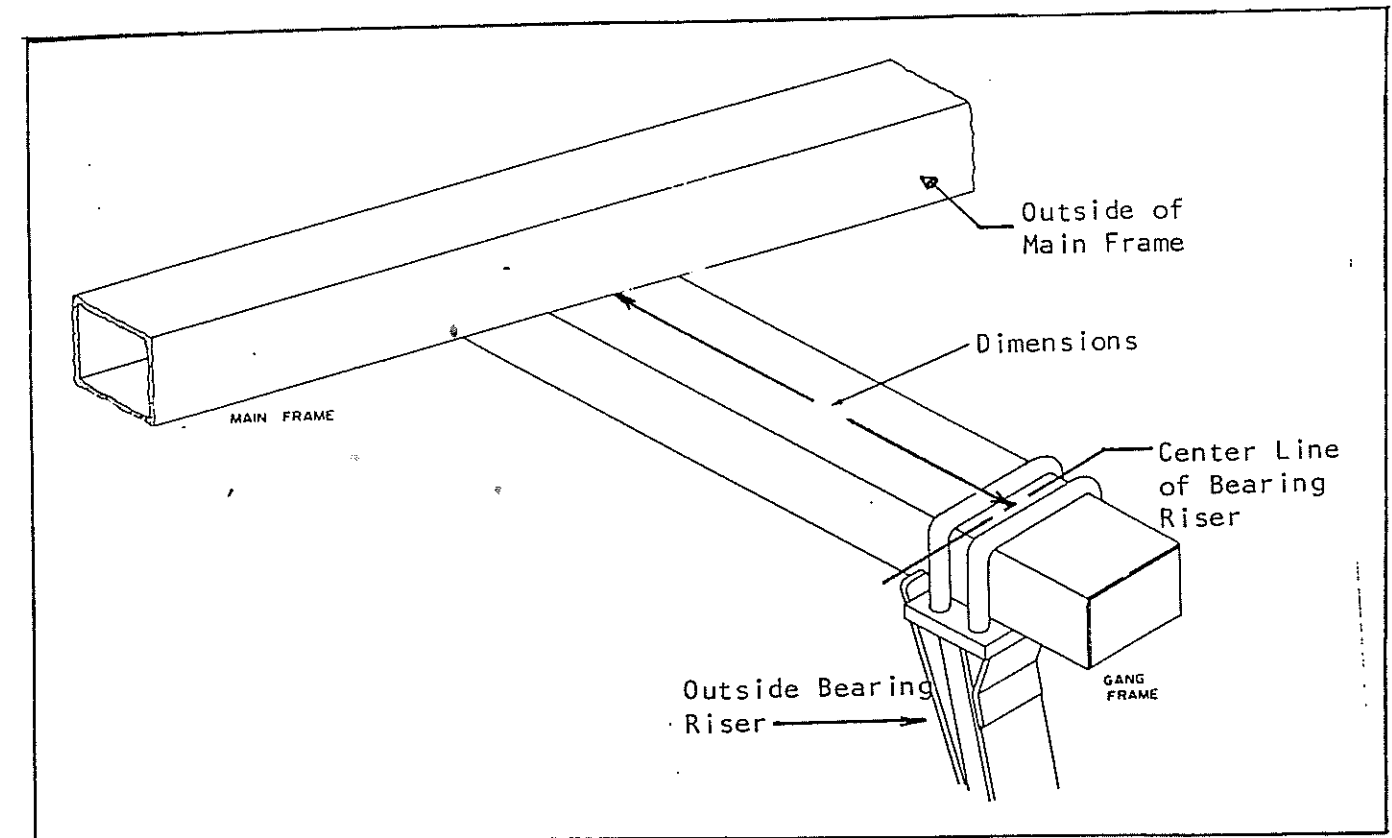
MODEL	"A"	"B"
26 Blade	47"	---
30 Blade	58 3/4"	23 1/2"
34 Blade	70 1/2"	23 1/2"
38 Blade	82 1/4"	47"



MODEL	"A"	"B"
26 Blade	47"	---
30 Blade	58 3/4"	35 1/4"
34 Blade	70 1/2"	35 1/4"
38 Blade	82 1/4"	47"

R300 Gang Placement Chart

The following dimensions are based on a 17° front gang angle, and a 19° rear gang angle. Be sure to measure down center of tube.



MODEL	26 Blade	30 Blade	34 Blade	38 Blade
Front	11"	22 3/4"	34 1/2"	46 1/4"
Rear	31"	42 3/4"	54 1/2"	66 1/4"

MOST OFTEN ENCOUNTERED DISK BLADE FAILURES

Most disk blade failures can be prevented by selecting the correct blade size and thickness for individual conditions when buying a disk. Reduction of speed in areas containing rocks and stumps will greatly lengthen the blade life. Keeping gang bolts properly torqued and raising the harrow while turning will also reduce disk blade breakage.

FIGURE 1 — Laminated Disc—defective steel. Eligible for warranty consideration.

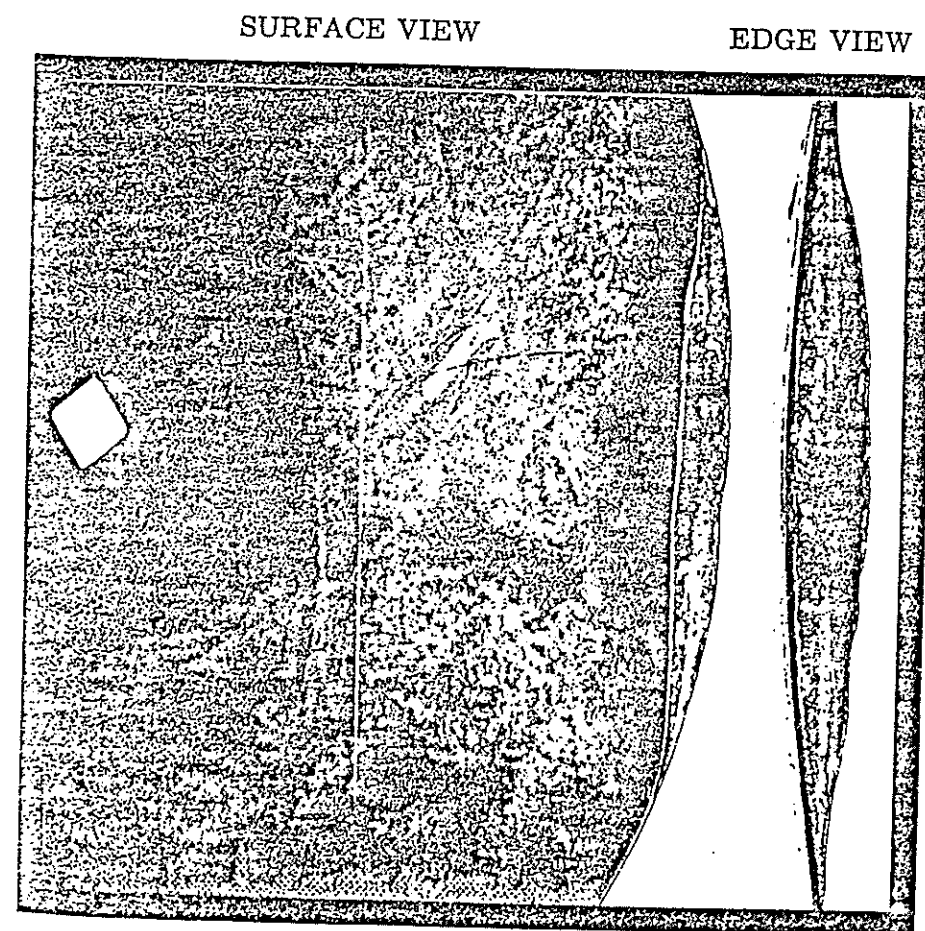


FIGURE 2 — Straight directional break caused by defective steel. Eligible for warranty consideration.

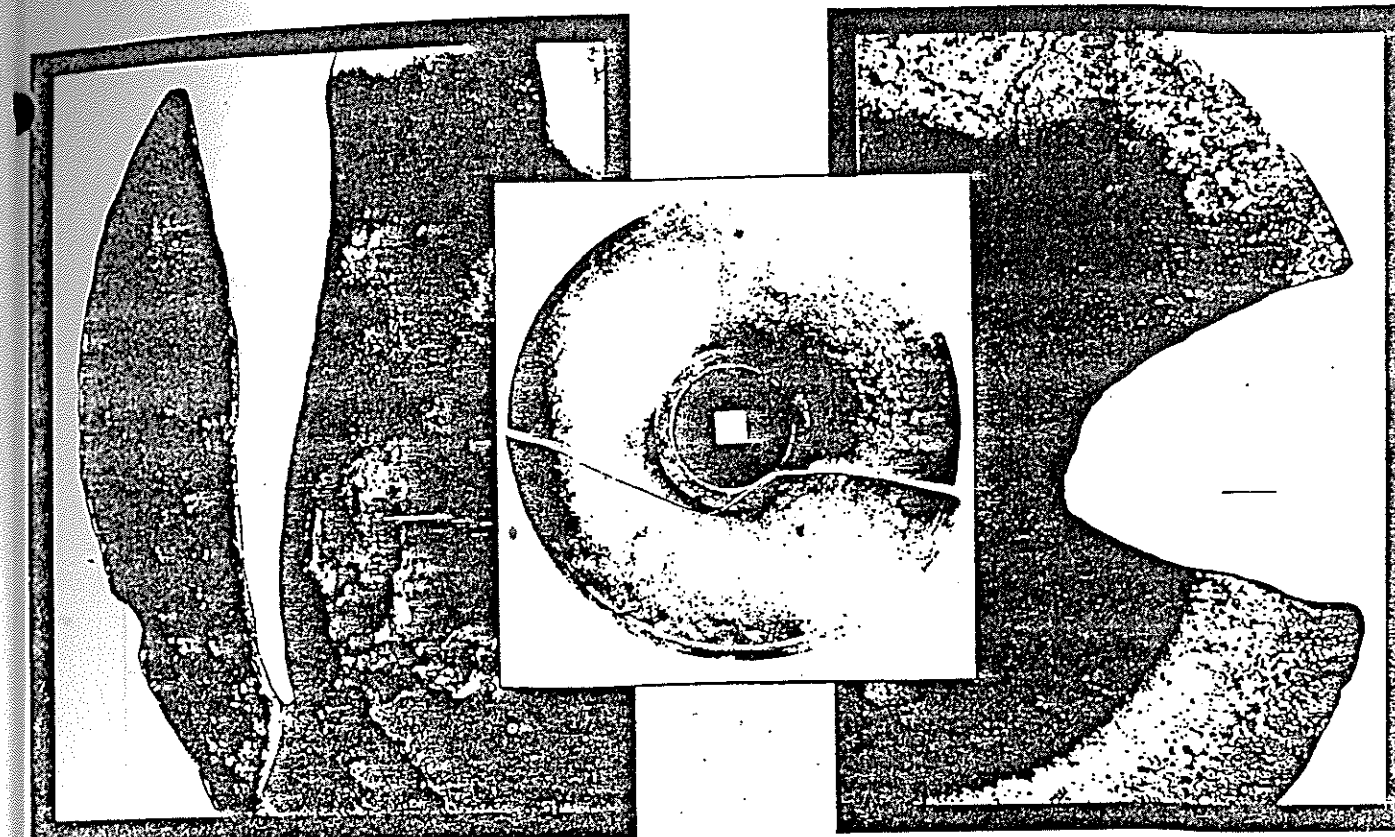
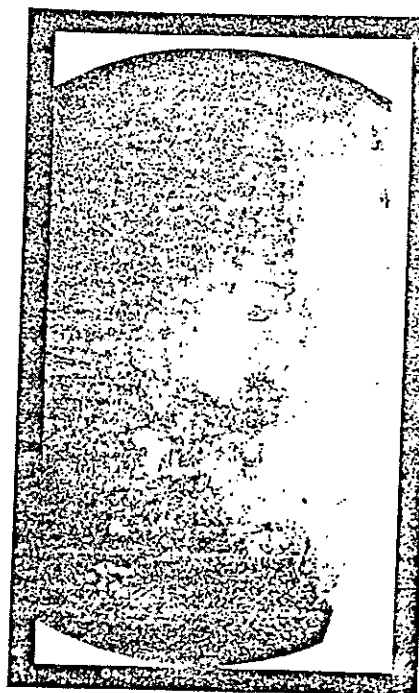


FIGURE 3, 4, 5 — Irregular breaks caused by contact against rocks or stumps. Not covered by warranty.



FIGURE 6 — Chipped or dented edges resulting from use in areas containing rocks or stumps. Not covered by warranty.

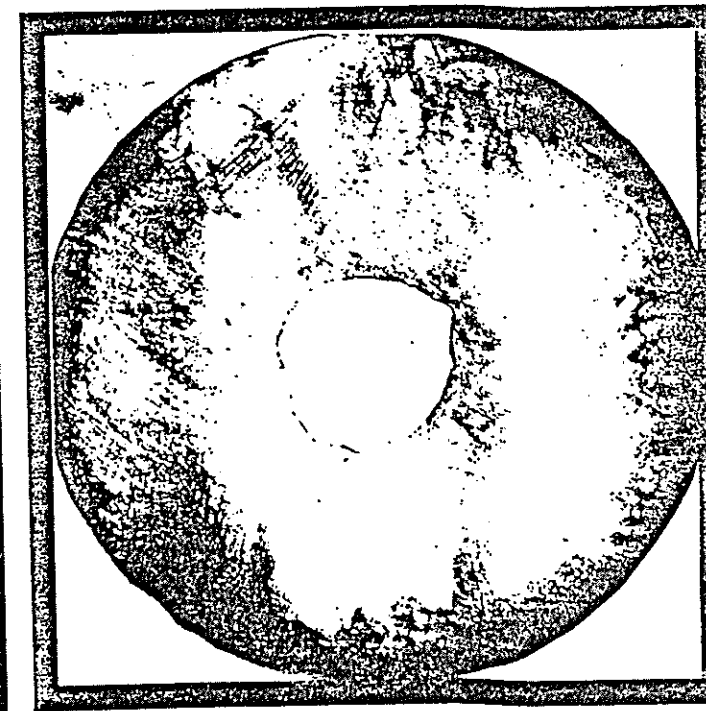







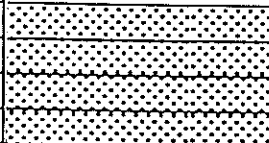


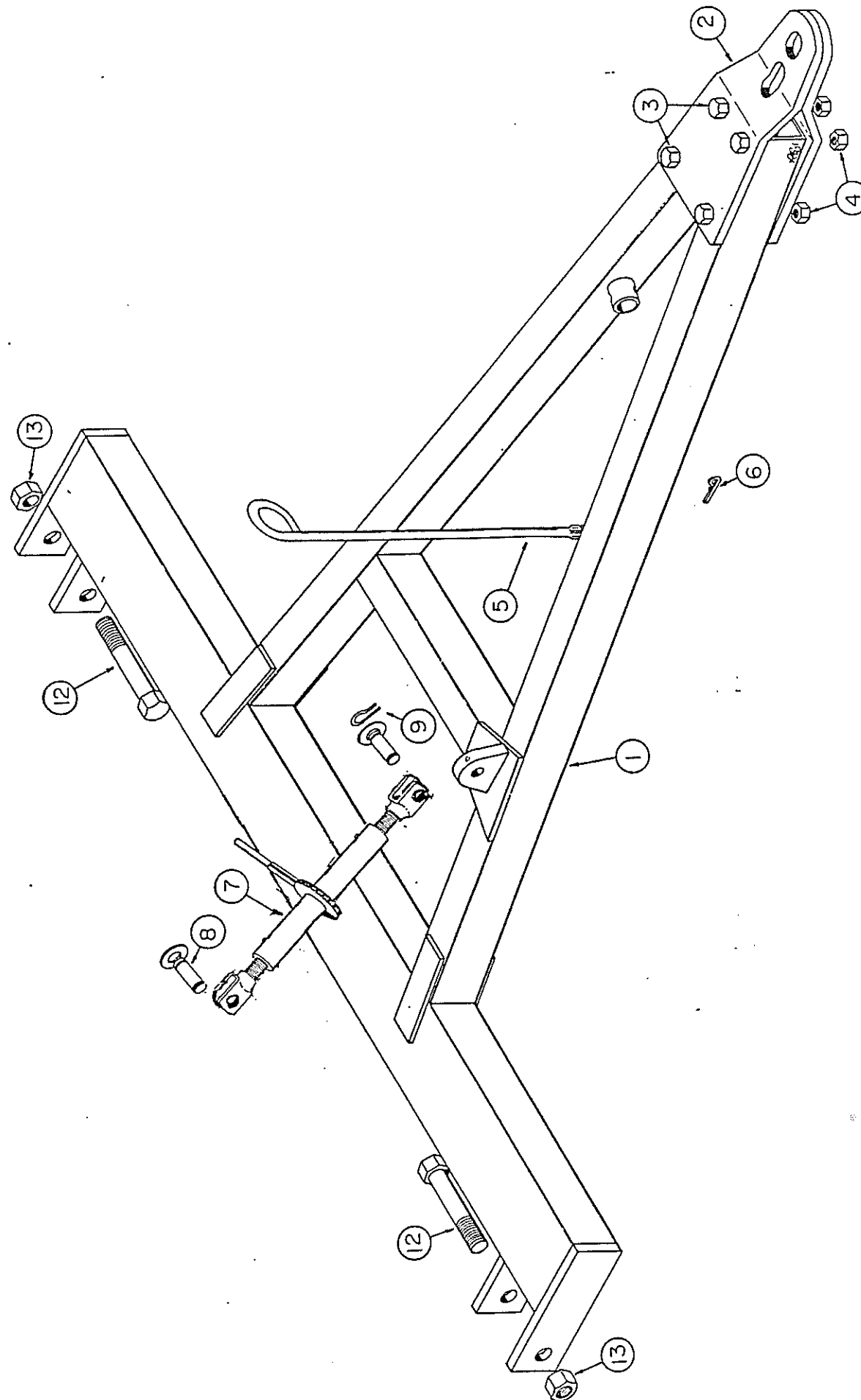
FIGURE 7 — Center broken out—Experience has shown that this is usually caused by loose bolts, excessive flexing, or by contact with rocks and stumps. Not covered by warranty.

GENERAL TORQUE SPECIFICATION TABLE

ALL BOLTS SHOULD BE TIGHTENED TO THE
RECOMMENDED TORQUES SHOWN IN THE
"GENERAL TORQUE SPECIFICATION TABLE"

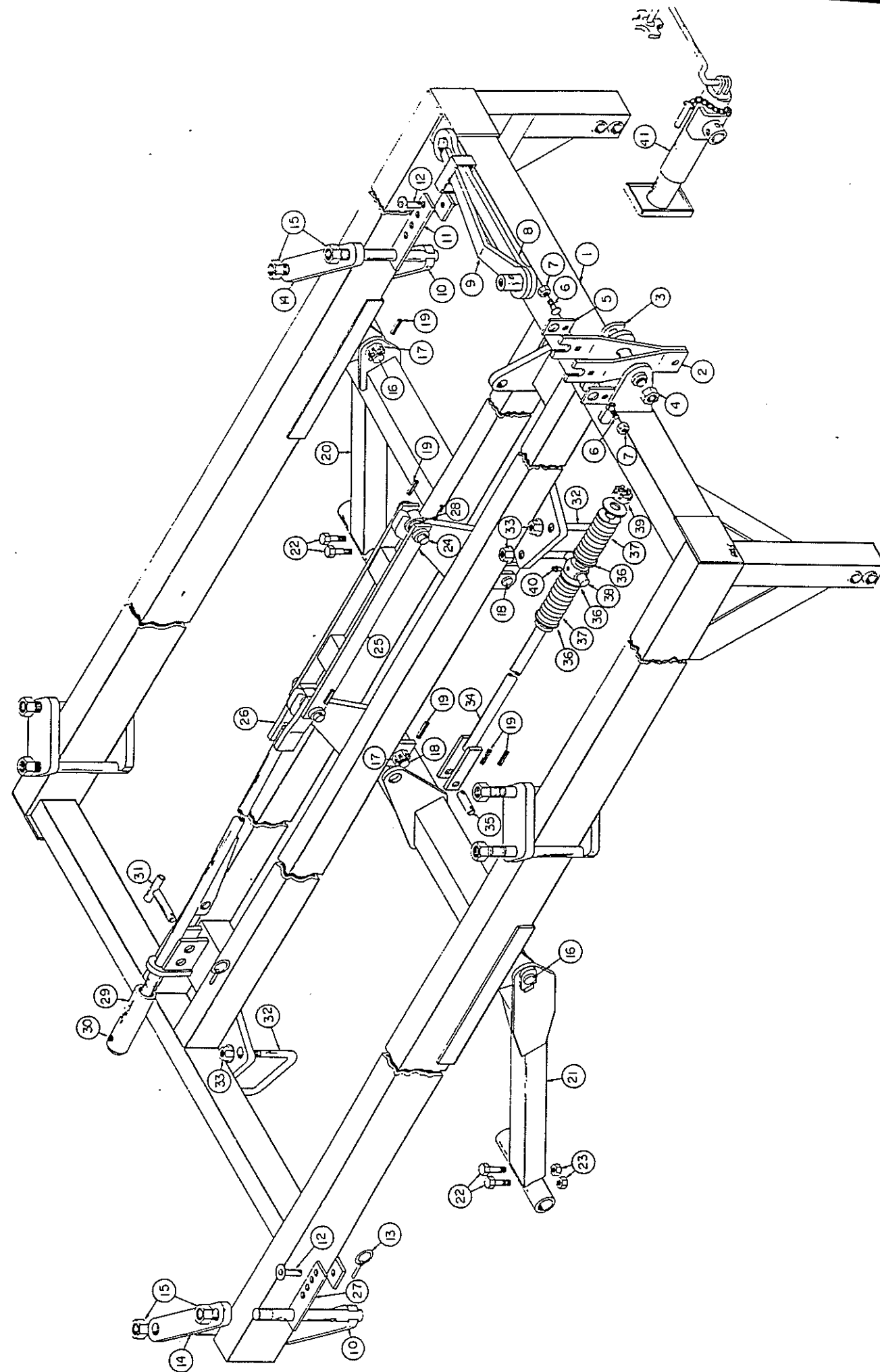
GENERAL TORQUE SPECIFICATION TABLE							
USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN							
Note: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly-disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.							
SAE Grade No.		2		5		8 *	
Bolt head identification marks as per grade NOTE: Manufacturing Marks Will Vary				  		  	
		Torque		Torque		Torque	
Bolt Size		Foot Pounds		Foot Pounds		Foot Pounds	
Inches	Millimeters	Min.	Max.	Min	Max	Min	Max
1/4	6.35	5	6	9	11	12	15
5/16	7.94	10	12	17	20.5	24	29
3/8	9.53	20	23	35	42	45	54
7/16	11.11	30	35	54	64	70	84
1/2	12.70	45	52	80	96	110	132
9/16	14.29	65	75	110	132	160	192
5/8	15.88	95	105	150	180	220	264
3/4	19.05	150	185	270	324	380	456
7/8	22.23	160	200	400	480	600	720
1	25.40	250	300	580	696	900	1080
1-1/8	25.58			800	880	1280	1440
1-1/4	31.75			1120	1240	1820	2000
1-3/8	34.93			1460	1680	2380	2720
1-1/2	38.10			1940	2200	3160	3560
				* Thick nuts must be used with Grade 8 bolts			

PARTS
LISTS



R300 PULL TONGUE

Ref. No.	Part No.	Description	No. Req'd.
1	20331	Assy. Pull Tongue.....	1
2	101854	Pull Clevis.....	2
3	10043	Hex Screw 5/8 x 6 1/2 NC, PL, GR5.....	4
4	10299	Lock Nut 5/8 NC, PL, GRB.....	4
5	100061	Hose Holder.....	1
6	10075	Cotter Pin 1/4 x 1 1/2.....	1
7	20360	Assy. Ratchet Jack.....	1
8	11096	Pin - Clevis 3 1/2" Long.....	2
9	10957	Clip - Hair Pin.....	4
12	11037	Hex Screw 1 1/4 x 8, NC, PL, GR2.....	2
13	10397	Lock Nut 1 1/4 NC, PL, GRC.....	2

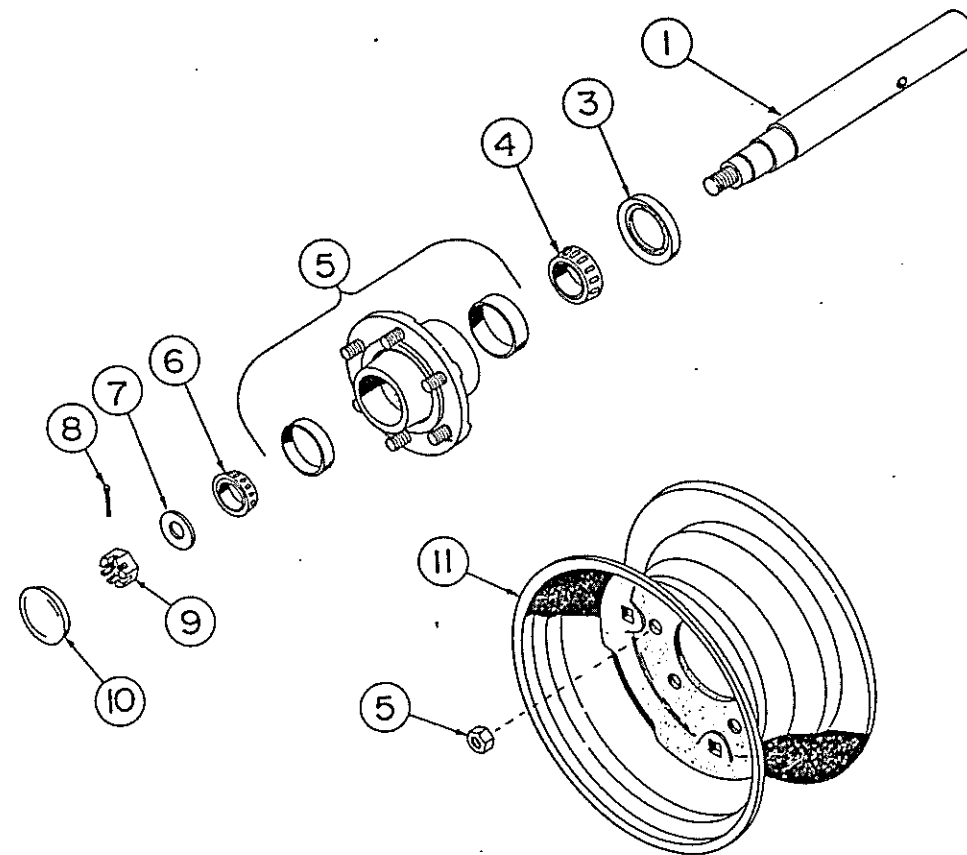


AMCO R300
MAIN FRAME & ROCKSHAFT

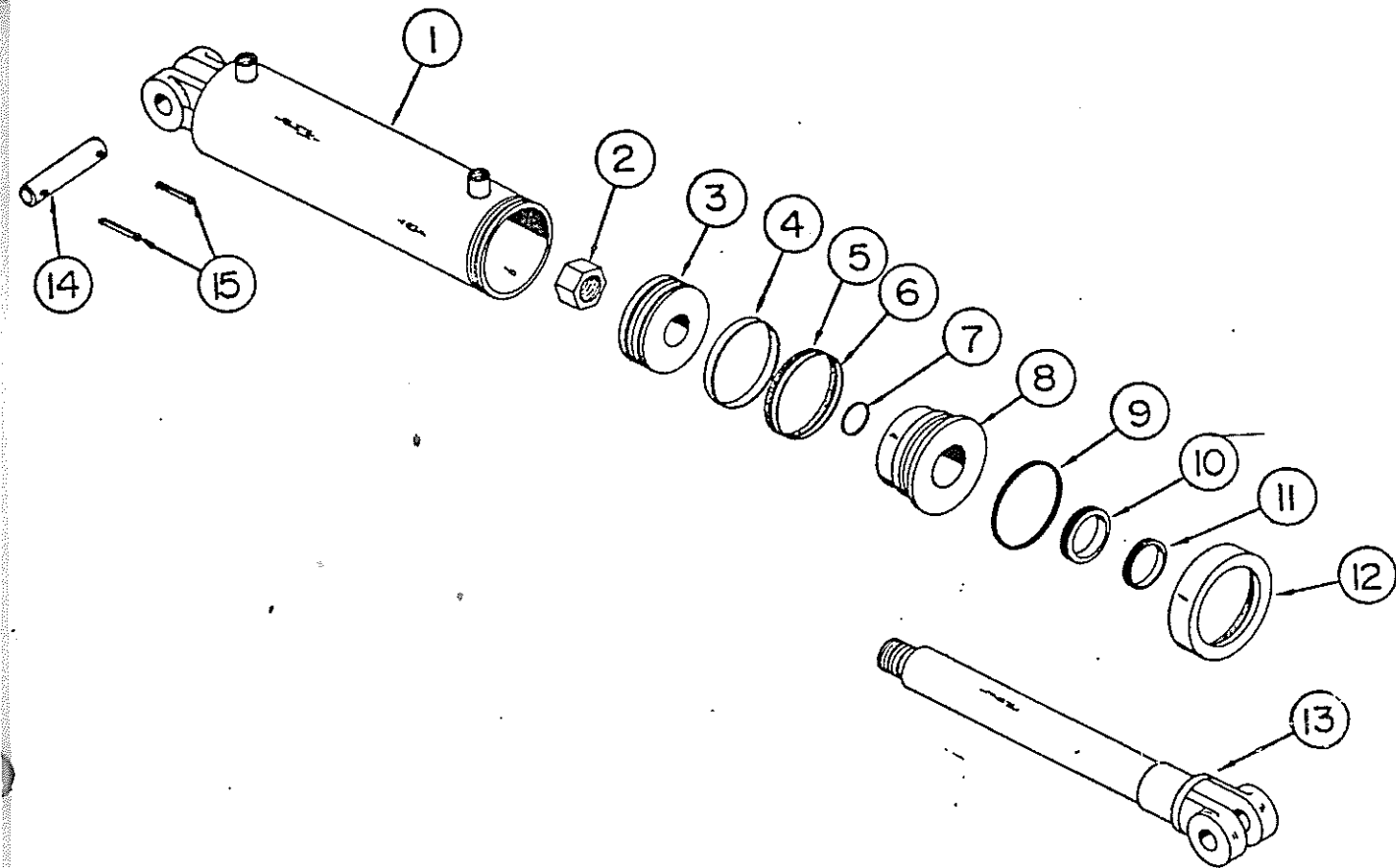
Ref. No.	Part No.	Description	No. Req'd.
1	20318	Assy. Main Frame.....	1
2	20333	Assy. Pivot Bracket.....	1
3	20136	Pivot Pin 1 1/4" Dia. 9 1/4" Long.....	1
4	10397	Lock Nut 1 1/4 NC, PL, GR.....	1
5	9628	Clamp Trunnion.....	2
6	10135	Carriage Screw 5/8 x 1 3/4 NC, PL GR5.....	2
7	10299	Lock Nut 5/8 NC, PL, GRB.....	2
8	100136	Nut Wrench.....	1
9	100134	Nut Wrench.....	1
10	20342	Assy. Clamp.....	4
11	101874	Angle Set Bar, Front.....	2
12	0388	Assy. Pin - Retainer.....	4
13	10317	Klik Pin 1/4.....	5
14	101880	Clamp Cap.....	4
15	10873	Hex Nut 1 3/8 NC, PL.....	8
16	0840	Assy. Rockshaft Pivot Pin 1 1/2 Dia. - 7 3/4 LG..	2
17	10232	Hex Nut 1 1/2 NC, Slotted, Finished.....	4
18	0866	Assy. Rockshaft Pivot Pin 1/2 Dia. 6 3/4 Long....	2
19	10910	Roll Pin 5/16 x 2 1/4.....	10
20	20329	Assy. Rockshaft - LH.....	1
21	20330	Assy. Rockshaft - RH.....	1
22	10773	Hex Screw 3/8 x 3 1/2 NC, PL GR5.....	4
23	10509	Lock Nut 3/8 NC, PL, GRB.....	4
24	100575	Pin 1 1/4 Dia. 7 3/8 Long.....	2
25	20340	Assy. Tie Link.....	1
26	20341	Assy. Dial-A-Depth Bar.....	1
27	101875	Angle Set Bar, Rear.....	2
28	11501	Bushing - Split 1 1/2 LG (not shown).....	2
29	20264	Depth Gauge Stop.....	1
30	11081	Grease Fitting 5/16 Drive-In.....	1
31	0871	Assy. Transport Pin (T-Pin).....	1
32	9560	U Bolt 7/8 Dia.....	4
33	11691	Flange Lock Nut 7/8 NC, PL, GRG.....	8
34	20332	Assy. Leveling Rod.....	1
35	101414	Pin 1" Dia. 3 3/8 Lg.....	1
36	10872	Flat Washer 1 3/8 USS PL.....	4
37	11814	Spring.....	2
38	9892	Swivel.....	1
39	11279	Hex Nut 1 3/8 NC, Slotted, PL.....	1
40	10606	Grease Fitting 1/8 NPT Threaded.....	1
41	101912	Sleeve (Not shown - Under Spring).....	2
42	11261	Parking Jack.....	1

SPINDLE & HUB

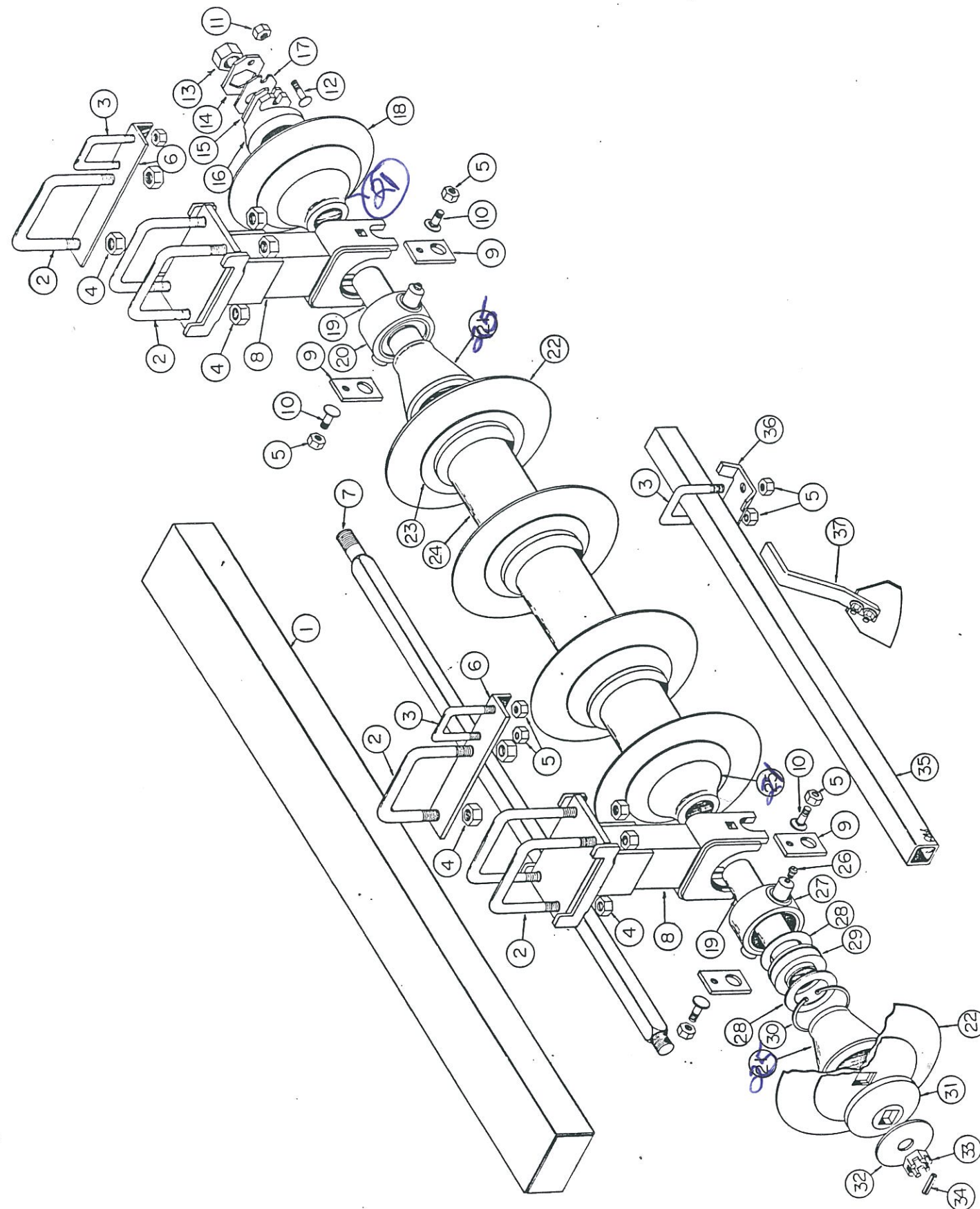
REF. NO.	PART NO.	DESCRIPTION	NO. RE
1	10880	Spindle 1 15/16" Dia. x 13" Long.....	1
3	10256	Seal (C/R22870).....	1
4	10258	Cone - Inner (Timken 342A).....	1
5	11297	Hub w/2 Cups, 6 Hub Bolts and 6 Hub Nuts.....	1
5	11298	Hub - 6 Bolt F and H (Pressed In).....	1
5	11299	Bolt - Hub 1/3" x 1 7/8" NF.....	6
5	11046	Nut - Hub 1/2" NG.....	6
5	10257	Cup - Inner (Timken 332).....	1
5	10261	Cup - Outer (Timken 14276).....	1
6	10262	Cone - Outer (Timken 14137A).....	1
7	10263	Washer - Spindle 7/8".....	1
8	10291	Nut - Spindle 7/8" NF Slotted.....	1
9	10264	Cotter Pin 5/32" x 1 1/4".....	1
10	10242	Hub Cap.....	1
11	11236	Wheel 15 x 10 - 6 Bolt.....	1



4 X 16 HYDRAULIC CYLINDER



Ref. No.	Part No.	Description	No. Req'd
1	11136	Barrel Assy.....	1
2	11139	Lock Nut-Self Locking 1 1/2-12NF.....	1
3	11138	Piston.....	1
	11148	Seal Repair Kit.....	1
4	11146	Wear Strip.....	1
5	11144	Piston Seal.....	1
6	11145	"O" Ring.....	1
7	11143	Rod Static Seal.....	1
9	11140	Gland Static Seal.....	1
10	11141	Rod Seal.....	1
11	11142	Rod Wiper.....	1
8	11137	Gland.....	1
12	11147	Collar.....	1
13	11135	Rod Assy.....	1
14	100171	Pin 1 1/4 Dia. x 4 1/2 Long.....	2
15	10910	Roll Pin 5/16 x 2 1/4.....	4
	11134	Cylinder Complete (Lantex #X3050-BL) (Pins not included)	
	AG-20-0004	4 x 16 Hydraulic Cylinder-Complete with Pins	

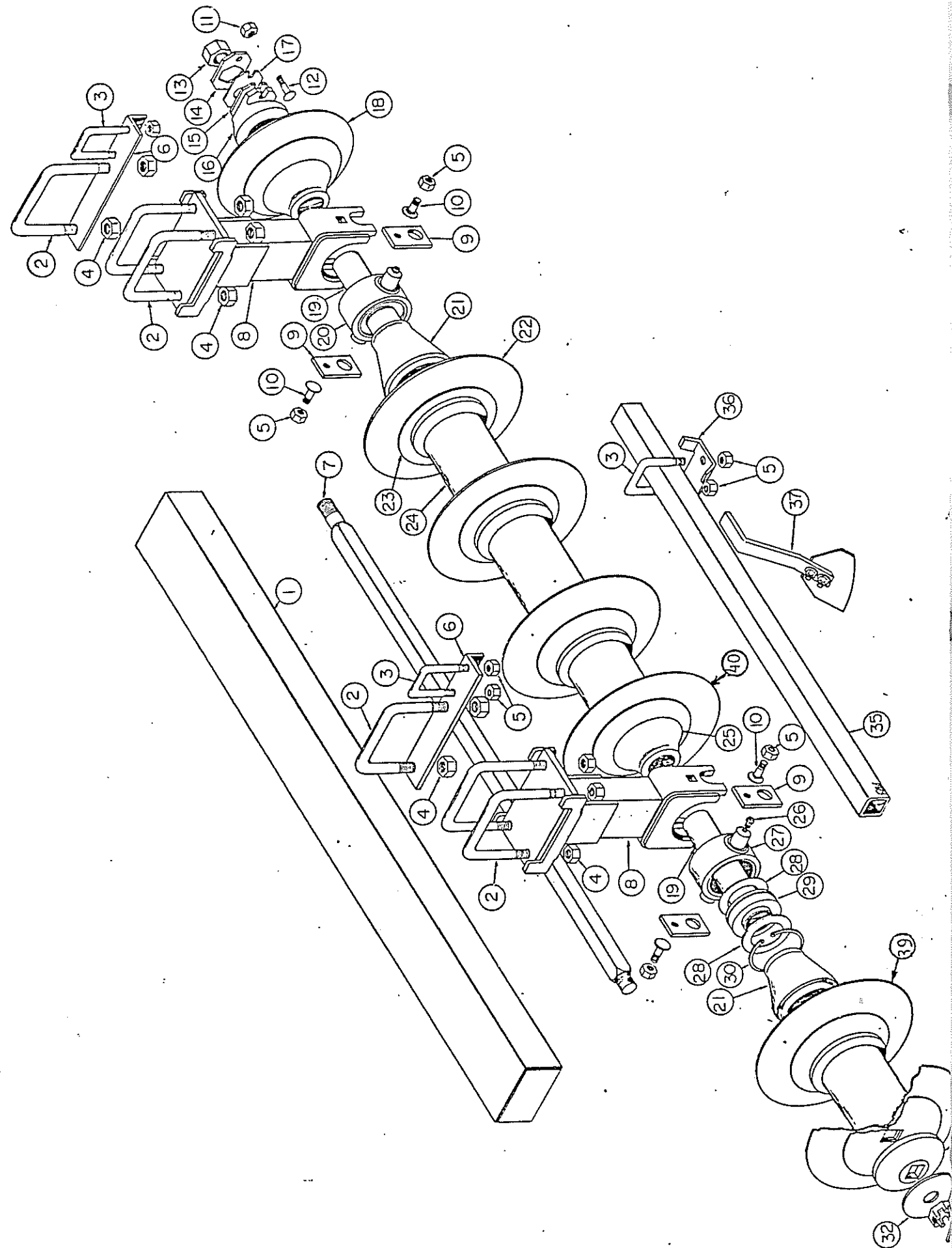


AMCO R300
GANG FRAME FRONT

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D BLADES			
			26	30	34	38
1	20347	Assy. Gang Frame - 77" Long.....	1	-	-	-
1	20348	Assy. Gang Frame - 88" Long.....	-	1	-	-
1	20349	Assy. Gang Frame - 100" Long.....	-	-	1	-
1	20350	Assy. Gang Frame - 112" Long.....	-	-	-	1
2	9560	"U" Bolt 7/8" Dia.....	6	9	9	9
3	100002A	"U" Bolt 5/8" Dia.....	5	6	7	8
4	10396	Lock Nut 7/8" NC, PL, GRB.....	12	18	18	18
5	10299	Lock Nut 5/8" NC, PL, GRB.....	14	18	20	22
6	101901	Scraper Bar Support.....	2	3	3	3
7	101888	Gang Bolt 1 1/2" Sq. - 6 Blade.....	1	-	-	-
7	101889	Gang Bolt 1 1/2" Sq. - 7 Blade.....	-	1	-	-
7	101890	Gang Bolt 1 1/2" Sq. - 8 Blade.....	-	-	1	-
7	101891	Gang Bolt 1 1/2" Sq. - 9 Blade.....	-	-	-	1
8	20345	Assy. Bearing Riser.....	2	3	3	3
9	9981	Clamp Trunion.....	4	6	6	6
10	10135	Carriage Screw 5/8" x 1 3/4" NC, PL, GR5.....	4	6	6	6
11	10395	Lock Nut 1/2" NC, PL.....	1	1	1	1
12	10710	Carriage Bolt 1/2" x 2" NC, PL, GR5.....	1	1	1	1
13	10489	Nut Gang Bolt.....	1	1	1	1
14	5622A	Lock Plate.....	1	1	1	1
15	100099	Spacer Plate.....	1	1	1	1
16	1222A	End Gang Washer.....	1	1	1	1
17	100098	Bearing Plate.....	1	1	1	1
18	3255	Blade 24" x 1/4" Plain.....	1	1	1	1
18	3250	Blade 24" x 1/4" C. O.....	1	1	1	1
18	3263	Blade 26" x 1/4" Plain.....	1	1	1	1
18	2456	Blade 26" x 1/4" C. O.....	1	1	1	1
19	101899	Sleeve.....	2	3	3	3
20	FB-09-0016	Sub Assy. Bearing & Housing (Complete).....	2	3	3	3
21	17005	End Bell - Large.....	2	3	3	3
22	3263	Blade 26" x 1/4" Plain.....	5	6	7	8
22	2456	Blade 26" x 1/4" C. O.....	5	6	7	8
22	11576	Blade 26" x 5/16" Plain.....	5	6	7	8
22	11575	Blade 26" x 5/16" C. O.....	5	6	7	8
22	11563	Blade 28" x 1/4" Plain.....	5	6	7	8
22	11564	Blade 28" x 1/4" C. O.....	5	6	7	8
23	3278	Blade 10" x 11" Ga. Plain Back-Up.....	6	7	8	9
24	20343	Spacer Spool.....	3	3	4	5
25	17019	End Bell - Small.....	2	3	3	3
25	FB-09-0016	Sub Assy. Bearing & Housing.....	2	3	3	3
26	10606	Grease Fitting 1/8" NPT Straight.....	1	1	1	1
27	16014	Bearing Housing - 125mm.....	1	1	1	1
28	100105	Washer 125mm.....	2	2	2	2
29	11504	Bearing 125mm DC214TTR3.....	1	1	1	1
30	11072	Retainer Ring.....	1	1	1	1
31	100738	Bumper Washer.....	1	1	1	1
32	10872	Cut Washer 1 3/8" PL.....	1	1	1	1
33	10226	Nut Gang Bolt 1 1/2" NF, Slotted.....	1	1	1	1
34	10910	Roll Pin 5/16" x 2 1/4".....	1	1	1	1
35	101908	Scraper Bar 2 1/2" Sq. - 53" Long.....	-	1	-	-
35	101909	Scraper Bar 2 1/2" Sq. - 65" Long.....	-	-	1	-
35	101910	Scraper Bar 2 1/2" Sq. - 77" Long.....	-	-	-	1
35	101911	Scraper Bar 2 1/2" Sq. - 89" Long.....	-	-	-	-
36	101055	Clamp Bracket.....	5	6	7	8
37	20072	Assy. Scraper RH - Shown.....	5	6	7	8
38	20073	Assy. Scraper LH - Not Shown.....	5	6	7	8
	100987	Scraper Shank.....	1	1	1	1
	101019	Scraper Blade.....	1	1	1	1
	10832	Cut Washer 1/2" PL.....	2	2	2	2
	10395	Lock Nut 1/2" NC, PL.....	2	2	2	2
	11652	Machine Bolt (Black) 1/2" x 1 1/4" NC.....	2	2	2	2

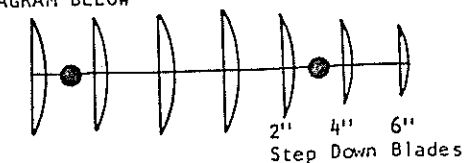
Front Gangs carry 5 to 8 full size blades and one step-down, all with back-up blades.
SEE DIAGRAM BELOW





REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D BLADES			
			26	30	34	38
1	20348	Assy. Gang Frame - 88" Long.....	1	-	-	-
1	20349	Assy. Gang Frame - 100" Long.....	-	1	-	-
1	20350	Assy. Gang Frame - 112" Long.....	-	-	1	-
1	20351	Assy. Gang Frame - 122" Long.....	-	-	-	1
2	9560	1 1/2" Bolt 7/8" Dia.....	6	9	9	9
3	100002A	1 1/2" Bolt 5/8" Dia.....	6	7	8	9
4	10396	Lock Nut 7/8" NC, PL, GRB.....	12	18	18	18
5	10299	Lock Nut 5/8" NC, PL, GRB.....	16	20	22	24
6	101901	Scraper Bar Support.....	2	3	3	3
7	101889	Gang Bolt 1 1/2" Sq. - 7 Blade.....	1	-	-	-
7	101890	Gang Bolt 1 1/2" Sq. - 8 Blade.....	-	1	-	-
7	101891	Gang Bolt 1 1/2" Sq. - 9 Blade.....	-	-	1	-
7	101892	Gang Bolt 1 1/2" Sq. - 10 Blade.....	-	-	-	1
8	20345	Assy. Bearing Riser.....	2	3	3	3
9	9981	Clamp Trunion.....	4	6	6	6
10	10135	Carriage Screw 5/8" x 1 3/4" NC, PL, GR5.....	4	6	6	6
11	10395	Lock Nut 1/2" NC, PL.....	1	1	1	1
12	10710	Carriage Bolt 1/2" x 2" NC, PL, GR5.....	1	1	1	1
13	10489	Nut Gang Bolt.....	1	1	1	1
14	5622A	Lock Plate.....	1	1	1	1
15	100099	Spacer Plate.....	1	1	1	1
16	1222A	End Gang Washer.....	1	1	1	1
17	100098	Bearing Plate.....	1	1	1	1
18	9481	Blade 20" x 3/16" Plain.....	1	1	1	1
18	9487	Blade 20" x 3/16" C. O.....	1	1	1	1
18	3276	Blade 22" x 1/4" Plain.....	1	1	1	1
18	3275	Blade 22" x 1/4" C. O.....	1	1	1	1
19	101899	Sleeve.....	2	3	3	3
20	FB-09-0016	Sub Assy. Bearing & Housing (Complete).....	2	3	3	3
21	17005	End Bell - Large.....	2	3	3	3
22	3263	Blade 26" x 1/4" Plain.....	4	5	6	7
22	2456	Blade 26" x 1/4" C. O.....	4	5	6	7
22	11576	Blade 26" x 5/16" Plain.....	4	5	6	7
22	11575	Blade 26" x 5/16" C. O.....	4	5	6	7
22	11563	Blade 28" x 1/4" Plain.....	4	5	6	7
22	11564	Blade 28" x 1/4" C. O.....	4	5	6	7
23	3278	Blade 10" x 11" Ga. Plain Back-Up.....	7	8	9	10
24	20343	Spacer Spool.....	4	4	5	6
25	17019	End Bell - Small.....	2	3	3	3
	FB-09-0016	Sub Assy. Bearing & Housing.....	2	3	3	3
26	10606	Grease Fitting 1/8" NPT Straight.....	1	1	1	1
27	16014	Bearing Housing - 125mm.....	1	1	1	1
28	100105	Washer 125mm.....	2	2	2	2
29	11504	Bearing 125mm DC214TTR3.....	1	1	1	1
30	11072	Retainer Ring.....	1	1	1	1
31	100738	Bumper Washer.....	1	1	1	1
32	10872	Cut Washer 1 3/8" PL.....	1	1	1	1
33	10226	Nut Gang Bolt 1 1/2" NF, Slotted.....	1	1	1	1
34	10910	Roll Pin 5/16" x 2 1/4".....	1	1	1	1
35	101909	Scraper Bar 2 1/2" Sq. - 65" Long.....	1	-	-	-
35	101910	Scraper Bar 2 1/2" Sq. - 77" Long.....	-	1	-	-
35	101911	Scraper Bar 2 1/2" Sq. - 89" Long.....	-	-	1	-
35	100010	Scraper Bar 2 1/2" Sq. - 102" Long.....	-	-	-	1
36	101055	Clamp Bracket.....	6	7	8	9
37	20072	Assy. Scraper RH - Shown.....	6	7	8	9
38	20073	Assy. Scraper LH - Not Shown.....	6	7	8	9
	100987	Scraper Shank.....	1	1	1	1
	101019	Scraper Blade.....	1	1	1	1
	10832	Cut Washer 1/2" PL.....	2	2	2	2
	10395	Lock Nut 1/2" NC, PL.....	2	2	2	2
	11652	Machine Bolt 1/2" x 1 1/4" NC.....	2	2	2	2
39	3276	Blade 22" x 1/4" Plain.....	1	1	1	1
39	3275	Blade 22" x 1/4" C. O.....	1	1	1	1
39	3255	Blade 24" x 1/4" Plain.....	1	1	1	1
39	3250	Blade 24" x 1/4" C. O.....	1	1	1	1
40	3255	Blade 24" x 1/4" Plain.....	1	1	1	1
40	3250	Blade 24" x 1/4" C. O.....	1	1	1	1
40	3263	Blade 26" x 1/4" Plain.....	1	1	1	1
40	2456	Blade 26" x 1/4" C. O.....	1	1	1	1

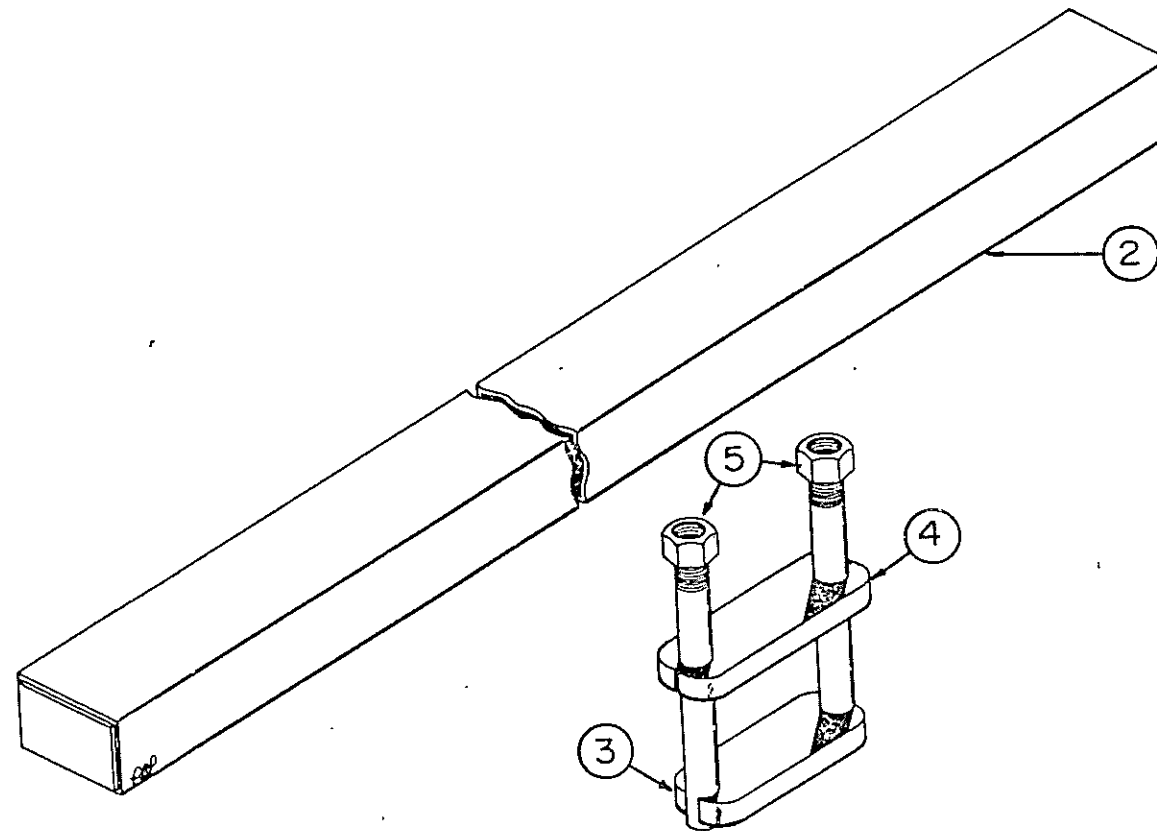
Rear Gangs carry 4 to 7 full size blades, 3 graduated step down blades all with back-up blades. SEE DIAGRAM BELOW



AMCO R300
AUXILIARY FRAME

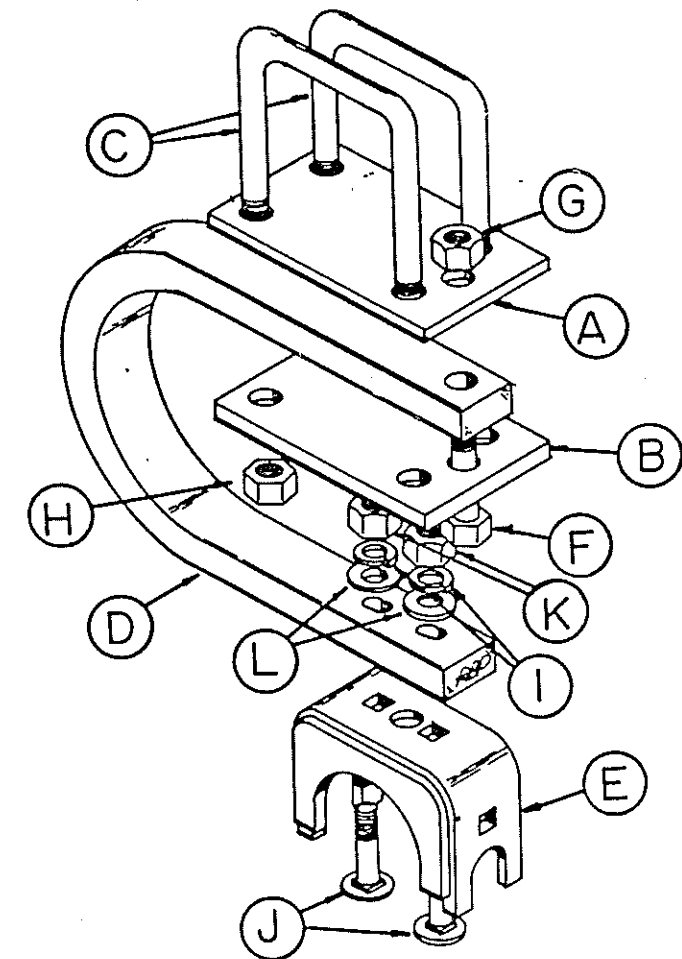
NOTE: Auxiliary frames are used on R300 34 and 38 blade harrows only!

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
2	20339	Assy. Auxiliary Bar.....	2
3	20342	Assy. Clamp.....	4
4	101880	Clamp Cap.....	4
5	10873	Hex Nut 1 3/8" NC, PL.....	8



R300 SHOCK ABSORBER BEARING RISER

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
A	101881	Clamp Plate.....	1
B	101882	Bottom Plate.....	1
C	101907	"U" Bolt 7/8" Dia.....	2
D	11522	Flex Gang Shank.....	1
E	20312	Trunion Mount Assy.....	1
F	10320	Hex Bolt 3/4" x 3 1/2" NC, PL. GR5.....	1
G	10300	Lock Nut 3/4" NC, PL.....	1
H	10396	Lock Nut 7/8" NC, PL.....	2
I	10061	Lock Washer 3/4" PL.....	2
J	10579	Carriage Bolt 3/4" x 3" NF, GR5.....	2
K	10585	Hex Nut 3/4" NF.....	2
L	10866	Cut Washer 3/4" PL.....	2
M	101900	Scraper Bar Support.....	1





! WARNING

1. BEFORE OPERATING - STUDY OPERATOR'S MANUAL SAFETY MESSAGES AND SAFE OPERATING PROCEDURES, READ SAFETY SIGNS ON THIS MACHINE.
2. TRANSPORT ON PUBLIC ROADS - OBSERVE FEDERAL, STATE AND LOCAL REGULATIONS; DISPLAY SMV EMBLEM; ATTACH PROPER STRENGTH SAFETY CHAIN TO TOWED IMPLEMENT; AND LIMIT MAXIMUM SPEED TO 20mph (32 km/h).
3. LOWER OR BLOCK ALL ELEVATED COMPONENTS BEFORE SERVICING OR LEAVING THIS MACHINE.

11741 321-6625

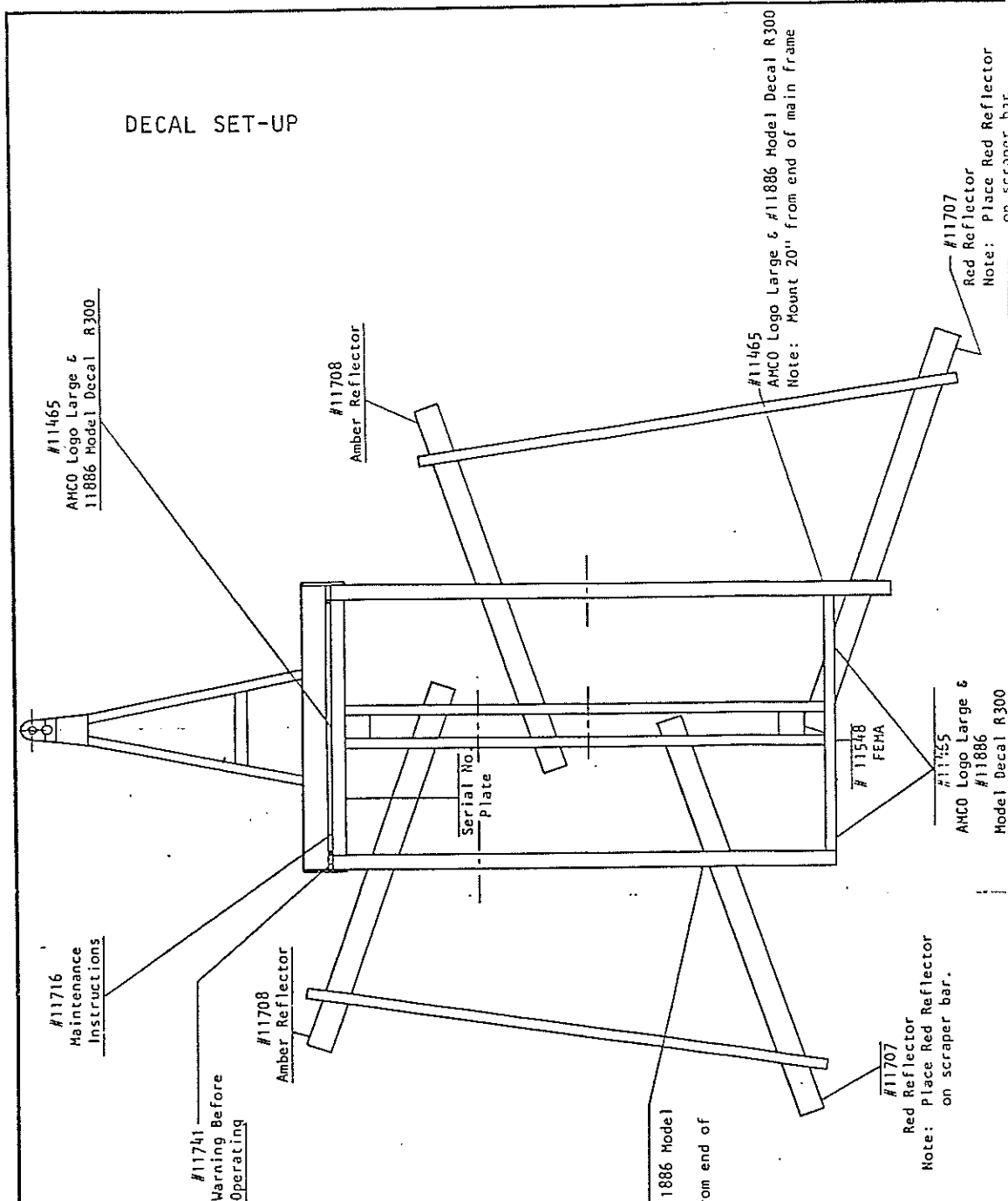
MAINTENANCE INSTRUCTIONS

1. Keep all bolts tight. Check after first 50 hours or one week's operation. Visually inspect all bolts daily.
2. Keep wheel bearings properly adjusted. Clean and repack each season or every 300 hours. Replace all worn or damaged parts when repairing.
3. Keep gang bolts tight! Tighten after first day's operation. Do not run with loose disk blades. If gang bolts have been operated in a loose condition, retighten, then tighten again after 30 minutes use, again after 4 to 5 hours, and again after 8 to 10 hours.
4. Grease gang bearings daily with a hand grease gun and a good grade of clean, number 2, lithium soap base grease. Always wipe fittings clean before greasing. Apply grease until old or dirty grease is purged from bearings. Avoid high-pressure greasing.
5. Inspect for damaged or misaligned parts if gangs do not turn smoothly by hand. Bearings will fail prematurely if operated with misaligned or damaged gang parts. If a gang is operated for one or more hours following a bearing fail, replace all bearings on the gang.

Refer to the operator's manual for other important maintenance instructions.



DECAL SET-UP



QTY	Part No.	Description
(5)	11465	AMCO Logo Large
(5)	11886	Model "R300"
(1)	11741	Warning Before operating
(1)	11716	Maintenance Instructions
(2)	11708	Amber Reflector
(2)	11707	Red Reflector
(1)	11548	FEMA