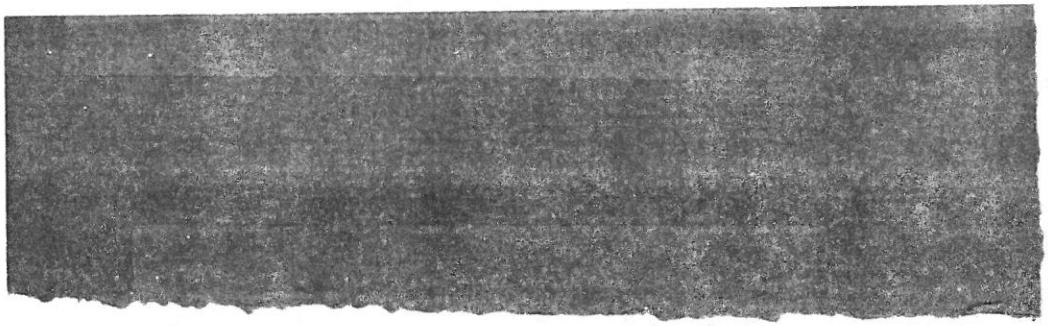


LAURIER

12 - 1500

BALE MOVER

ASSEMBLY · OPERATOR · PARTS MANUAL

TABLE OF CONTENTS

LAURIER MANUFACTURING LIMITED
12-1500 BALE MOVER

INTRODUCTION

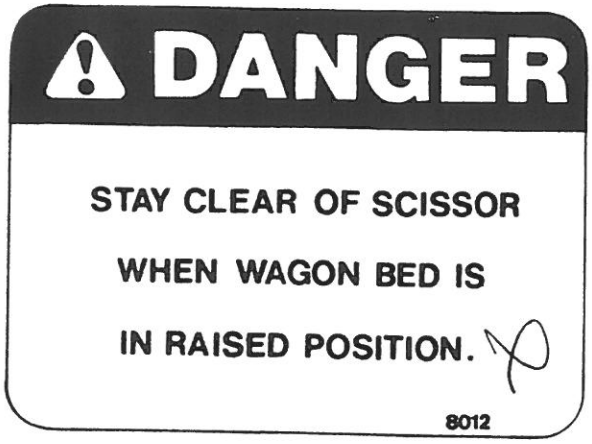
We at Laurier Manufacturing Limited are pleased that you have chosen a Laurier 12 Bale Mover for your farming operation.

We ask that you study this manual and adopt the preventive maintenance program outlined in it. Preventive maintenance will provide you with trouble free service for years to come.

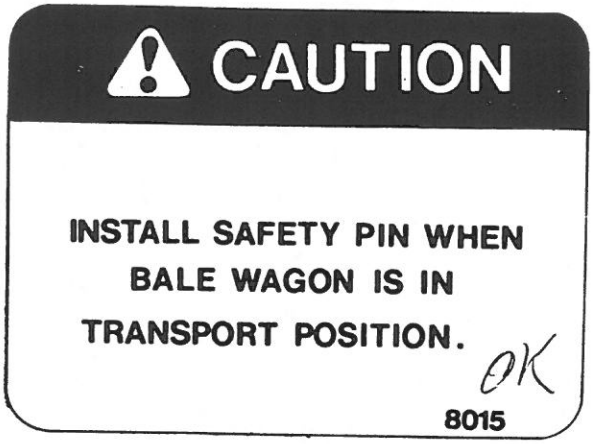
This manual serves three main functions:

1. As an assembly manual,
2. As an operators manual,
3. As a parts catalog.

SAFETY



Located on scissor.



Located on outside rails.

Located on P.T.O.

Located on 3x6
cross member.

Located on drive shield.

OK

SERIAL NUMBER is located
on A-frame cross piece

Located on P.T.O.

1 SPECIFICATIONS

12 1500 Bale Mover

Shipping weight	7000 lbs.
Total length	38 feet
Bed length	30 feet
Total Width	14'2"
Bed Width	11'0"
Total height	9'0"
Bed height	2'6"
Ground clearance	14"
Maximum capacity	12-5 foot 1500 lb. bales
Conveyor chain	heavy duty ASA 2062 1½ pitch
Cylinders	2 - 3½ bore 13" stroke 1 - 4" bore 8" stroke
Gear box	Ratio 1.5:1 HP 56 intermittent
Hydraulic Hose	½" 1 wire braid operating pressure 2000 psi
Tires	8 - 9.5L x 15 8 ply tube type 40 psi
Undercarriage	2 four wheel oscillating tandems

2 ASSEMBLY

1. **SITE SELECTION**

   Prior to assembly, select an area which is clean, level and large enough to accommodate assembled bale mover.

2. **ORIENTATION**

   Left and right are determined when standing behind the machine facing the direction of travel.

3. **REQUIRED TOOLS AND EQUIPMENT**

   Before beginning assembly of the Bale Mover, have the following equipment on hand:

   1. Fork lift or hoisting equipment with lifting capacity of 500 lbs.
   2. Wrenches: 1/2, 9/16, 3/4, 7/8, 15/16, 1, 1¼".
   3. Wire cutters
   4. Pliers
   5. Ball peen hammer
   6. Pry bar
   7. Aligning bar

CAUTION:

SOME BALE MOVER COMPONENTS ARE EXTREMELY HEAVY. HAVE HOISTING EQUIPMENT AVAILABLE WITH A LIFTING CAPACITY OF 500 POUNDS FOR ASSEMBLY OF PARTS.

4. Open packing case and check contents against parts list in this book.

5. Before beginning to assemble Bale Mover ensure that all parts are accounted. Check against parts list in this book.

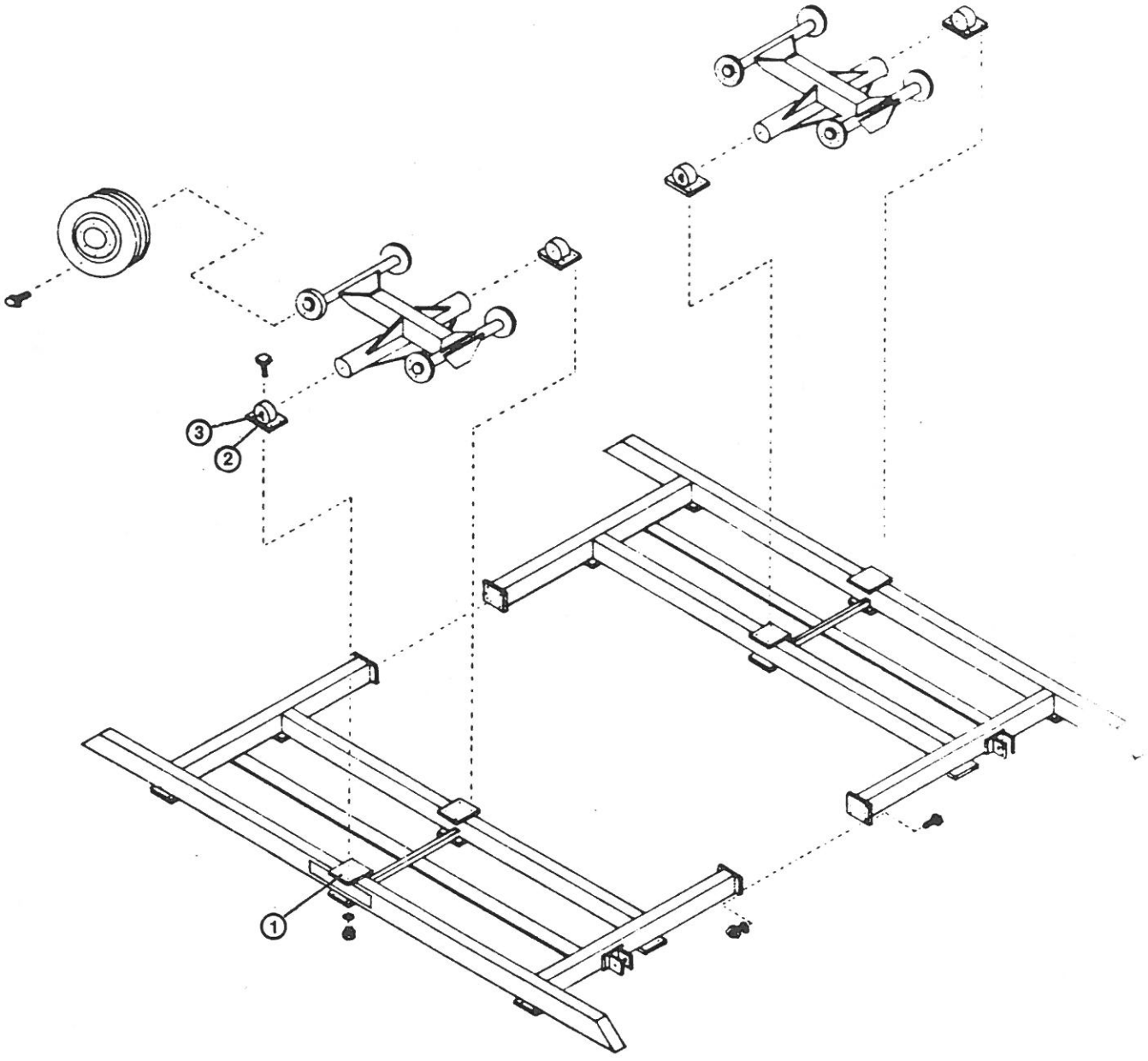


FIGURE 1: Sub Frame Assembly

ASSEMBLY OF OSCILLATING TANDEMS TO SUB FRAME

To assemble oscillating tandems to sub frame refer to figure 1, and proceed as follows;

1. With hoisting equipment, place Bale Mover sub frames in an inverted position, (with two bolting plates upwards). Sub frames should be placed on wood blocking to prevent paint damage.

CAUTION:

STAND CLEAR OF HOISTING EQUIPMENT WHILE INVERTING BALE MOVER SUB FRAMES.

2. With oscillating tandem assembly inverted, see figure 1, position pockets #2 onto axle assembly. Ensure that the bolting plates #1 are facing upwards. Install grease nipples #3.

3. Hoist inverted oscillating tandems onto Bale Mover sub frame. Align bolting plates with aligning bar. Secure with ½x1½ bolt, lock washer and nut.

TO INSTALL WHEELS

To install wheels:

1. Retain subframe and oscillating tandem assembly in the inverted position; Remove 9/16 wheel bolts from the hub; position wheels, secure with bolts.

CAUTION:

FOR PROPER AND SAFE INSTALLATION ENSURE THAT WHEEL BOLTS ARE NOT CROSS THREADED.

2. With fork lift or hoisting equipment reposition each subframe assembly in an upright position.

CAUTION:

STAND CLEAR OF HOISTING EQUIPMENT WHILE INVERTING BALE MOVER SUB FRAMES.

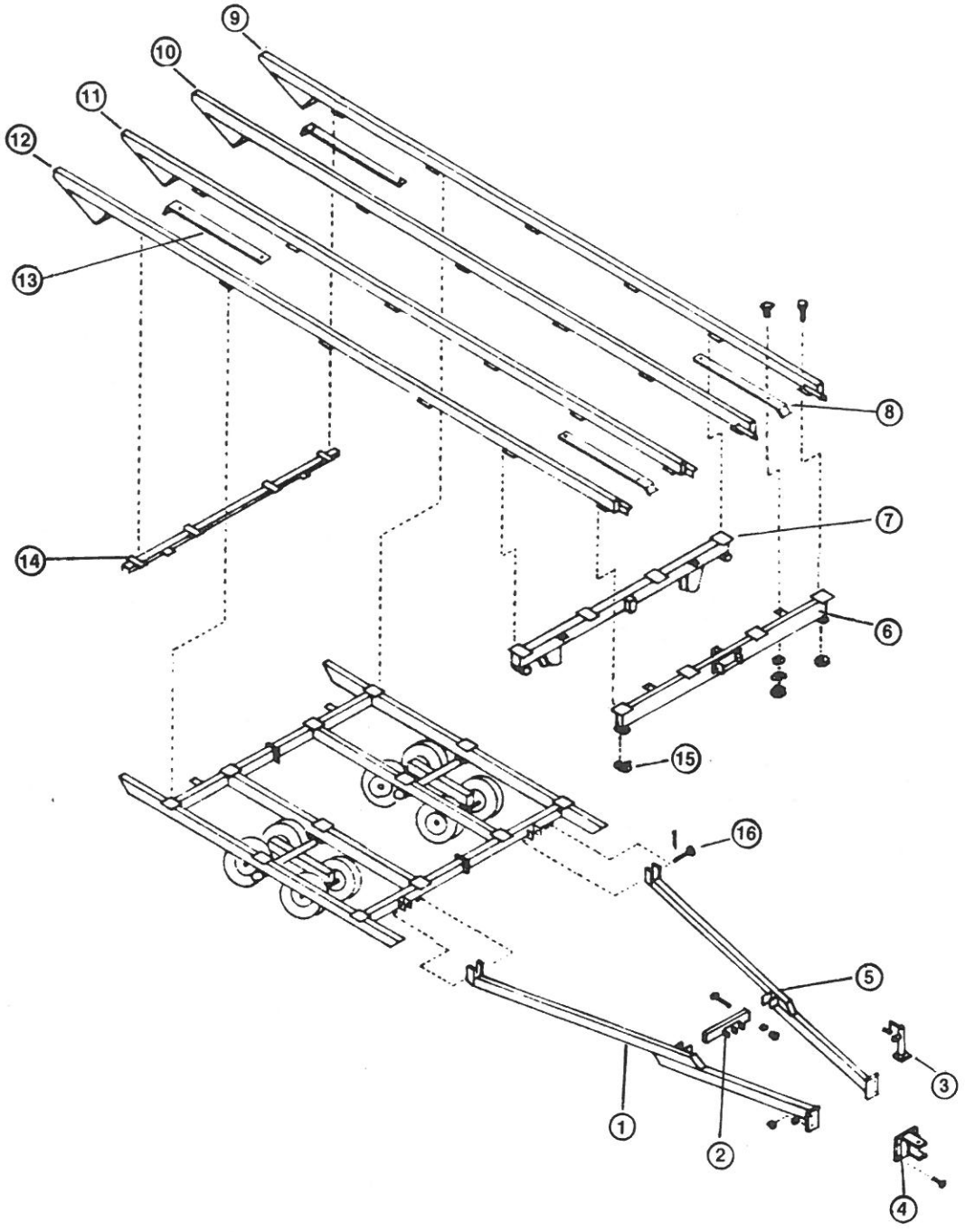


FIGURE 2. A-Frame Hitch and Rail Assembly

ASSEMBLY OF BALE MOVER SUB FRAMES

To assemble bale mover sub frames:

1. With left and right sub frame assemblies in an upright position, bring each sub frame together at bolting plates. See figure 2. With aligning bar align holes; Secure with ½x1½ bolt, lockwasher, and nut.

ASSEMBLY OF A-FRAME HITCH TO SUBFRAME

To assemble A-frame hitch to sub frame:

1. Refer to figure 2. Locate left and right A frame hitch members #1, #5, Cross brace #2, hitch #4, and Jack #3.

2. Position left and right hitch members to sub frame assembly, see figure #2. Install 1¼x5 pins, #16. Secure with ¼x2½ cotter pins.

3. Position cross member #2. Install ½x4½ bolts, lock washers, nuts; DO NOT TIGHTEN TILL HITCH PLATE IS FIRMLY SECURED.

4. Install hitch plate #4 to A-frame; Align holes with aligning bar. Secure with 3/4x2 bolt, lockwasher and nut.

5. Tighten bolts on cross member.

6. Install jack, item #3 to inside of A-frame hitch; Secure with snap ring.

INSTALLATION OF 3x6 CROSS MEMBER

NOTE

To install 3x6 cross member, operate side wind jack until A-frame hitch is in a horizontal position with the subframe. This will facilitate installation of rails.

1. Place 3x6 cross member #6 onto A-frame hitch, vertical with A-frame hitch cross member.

INSTALLATION OF 4x6 CROSS MEMBER

To install 4x6 cross member:

1. Place 4x6 cross member #7 (with square pocket towards front), approximately half way between 3x6 cross member #6 and first bolting plate on subframe.

2. Install grease nipples (four) #15 to 3x6, 4x6 cross members.

INSTALLATION OF RAILS TO SUBFRAME

To install rails to subframe, see figure #2.

NOTE

Rails are identified by paint decals located at front of rail; see figure #2..

#9 outside left
#10 inside left
#11 inside right
#12 outside right

1. With fork lift or hoisting equipment place rails (4) upon Bale Mover subframe hitch assembly.

CAUTION:

DUE TO LENGTH OF RAILS, TO AVOID DAMAGE AND PERSONAL INJURY, CAUTION SHOULD BE EXCERCISED WHEN LIFTING MEMBERS INTO PLACE BY BALANCING MEMBER ON CENTER.

2. Place individual rails onto bolting plates of subframe, 4x6 and 3x6 cross members. Using aligning bar adjust rails and install bolts.

IMPORTANT

Do not tighten bolts until all major pieces are assembled. This facilitates aligning parts, and eases bolt installation.

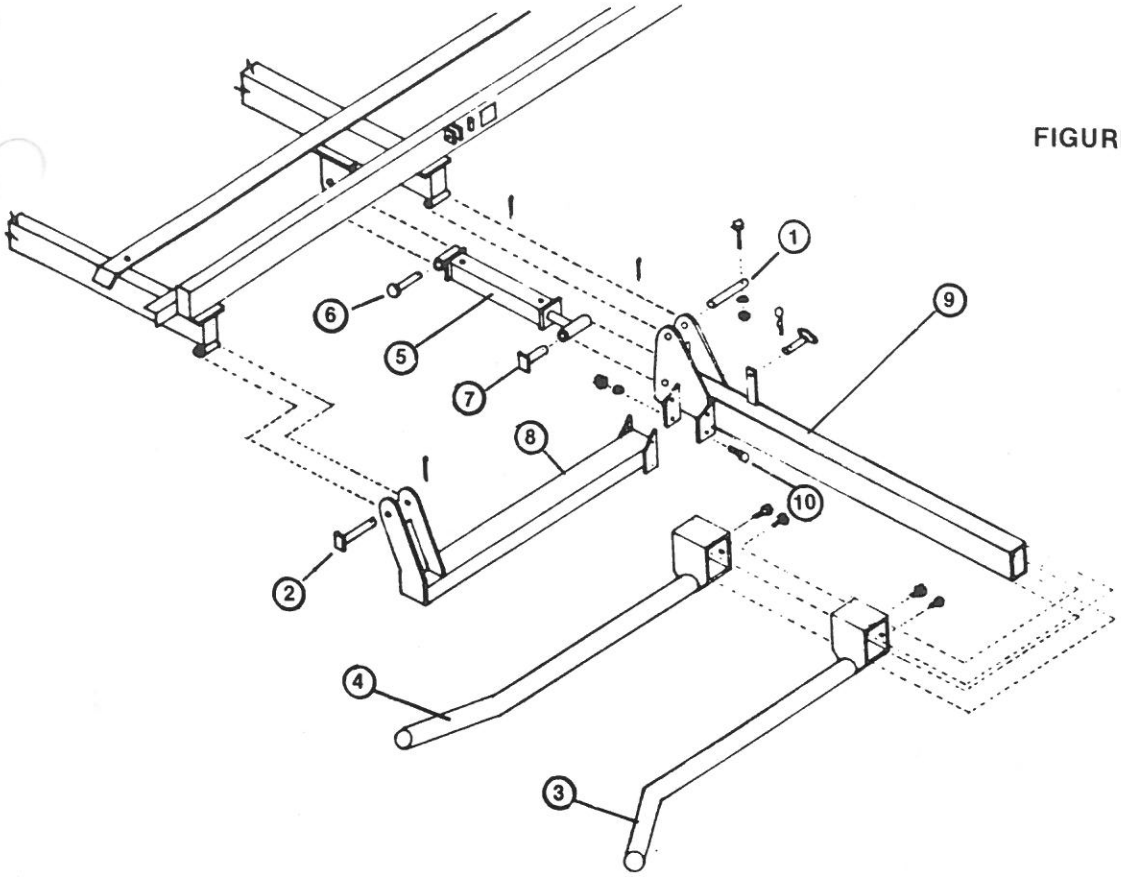


FIGURE 3. Left Fork Assembly

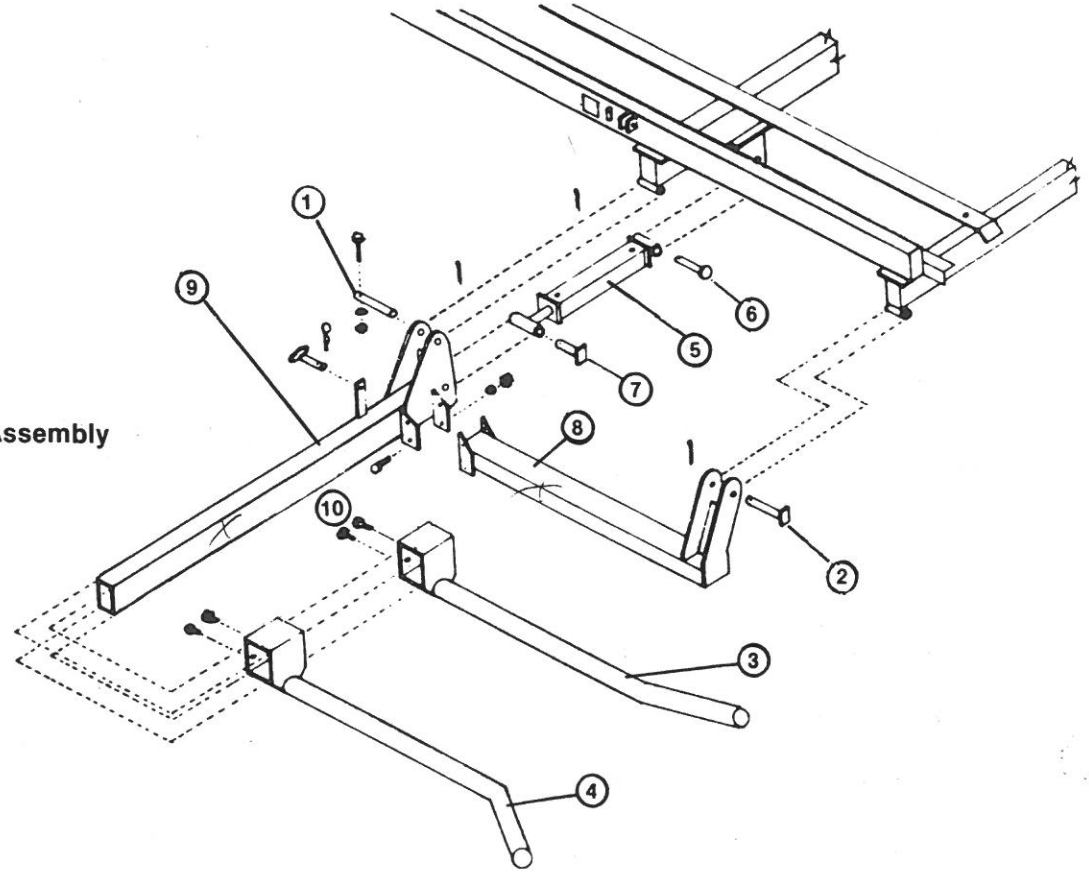


FIGURE 4. Right Fork Assembly

INSTALLATION OF CHANNEL CROSS MEMBER

To install channel cross member:

1. Place member under rails with bolting plates upwards, bolting tabs towards front. See figure #2, page 9.

INSTALLATION OF BALE SLIDES

To install bale slides:

1. Locate front #8 and rear #13 bale slides. See figure #2, page 9.
2. Position slides onto Bale Mover sub frame and cross members. Secure with ½x1 carriage bolt and nut.

INSTALLATION OF BALE FORKS TO BALE MOVER SUBFRAME

To install bale forks to Bale Mover sub frame assembly, refer to figure #3, #4:

1. Place fork slide frame beneath 4x6 cross member item #9, figure 3, figure 4. Align hole, install 1¼x7 pin, item #1, secure with 5/16x3 bolt, lockwasher and nut.

2. Place fork frame beneath 3x6 cross member, item #8, figure 3, figure 4. Align pin hole: install 1x6 pin, item #2. Align bolting holes, install ⅝x1½ bolt lockwasher and nut, item #10.

INSTALLATION OF FORK TEETH LEFT AND RIGHT

To install fork teeth on fork slide frame:

1. Lift and block the slide frame four to six inches above the ground. Slide left fork #3 onto the frame; Tighten set screws. Slide right fork #4 onto the frame; Tighten set screws.

NOTE

Fork teeth can be adjusted according to round bale size. See adjustment section page 28.

FORK CYLINDER INSTALLATION

To install fork cylinders, left and right:

1. Locate 3½x13 cylinders, #5, Pin #7, #6. With ports upwards, position base plate of cylinder to the bracket on the 4x6 cross member.

2. Install 1x6 pin #6 and secure with ¼x2½ cotter pin.

NOTE

Leave the attached cylinders in the down position to facilitate later installation of swivel elbows and hoses. See installation of hoses, page 20.

IMPORTANT

Tighten all bolts on bale mover subframe, A-frame hitch and rails, before proceeding with further assembly.

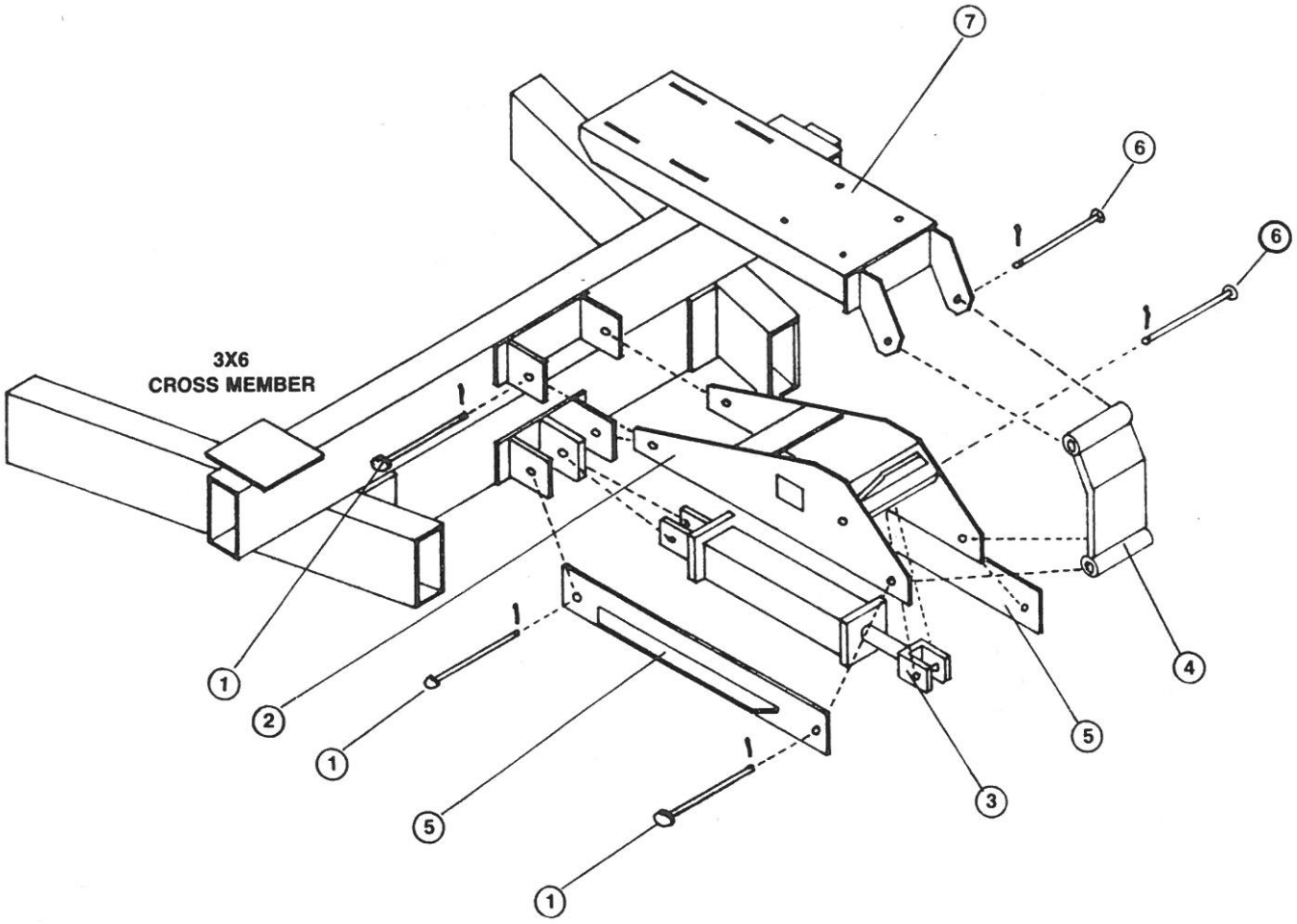


FIGURE 5. Scissor Bracket Assembly

SCISSOR BRACKET INSTALLATION

Refer to figure 5 and proceed as follows:

1. Position main scissor bracket #2 to 3x6 cross member and secure with 1x8⅞ pin, #1, and cotter pin.

2. Position side plates #5, and 4x8 cylinder #3 to hitch cross member, secure with 1x8⅞ pin #1, and cotter pin.

3. Secure clevis end of 4x8 cylinder to scissor and secure with 1x7⅞ pin and cotter pin.

4. Lift side plates #5 to scissor, place stabilizer #4 to scissor, secure with 1x8⅞ pin, and cotter pin.

5. Position gear box mount #7 to stabilizer #4, secure with 1x7⅞ pin #6, and cotter pin.

NOTE

To facilitate hose installation, swivel elbows and hoses can be attached to the cylinder before being positioned to main scissor bracket. See installation of hoses, page 20.
ENSURE PROPER HOSE ALLOWANCE WHEN OPERATING SCISSOR.

INSTALLATION OF CHAIN DRIVE

To install the chain drive assembly refer to figure #6, page 15, and proceed as follows:

1. Position: left #3 and right #1, shafting onto the rail bolting brackets. Install ½x2 bolt, flat washer, lockwasher and nut.

IMPORTANT

Do not tighten the bolts till all the chain drive mechanism is assembled. This will facilitate drive shaft adjustments. Both drive shafts should be in line, perpendicular as well as horizontally. If necessary shim bearing with shims provided.

2. Install coupler chain, #2, uniting left and right shafting. Secure with connecting link.

NOTE

Shafting should now turn freely as a unit. If the sprocket teeth rub against the rails, alter the position of the bearings, either by moving them forward or shiming with the provided shims.

3. Place guard bracket #4 onto front of bearings #5. Secure with ½x2¼ bolt, flat washers, lockwasher, and nut.

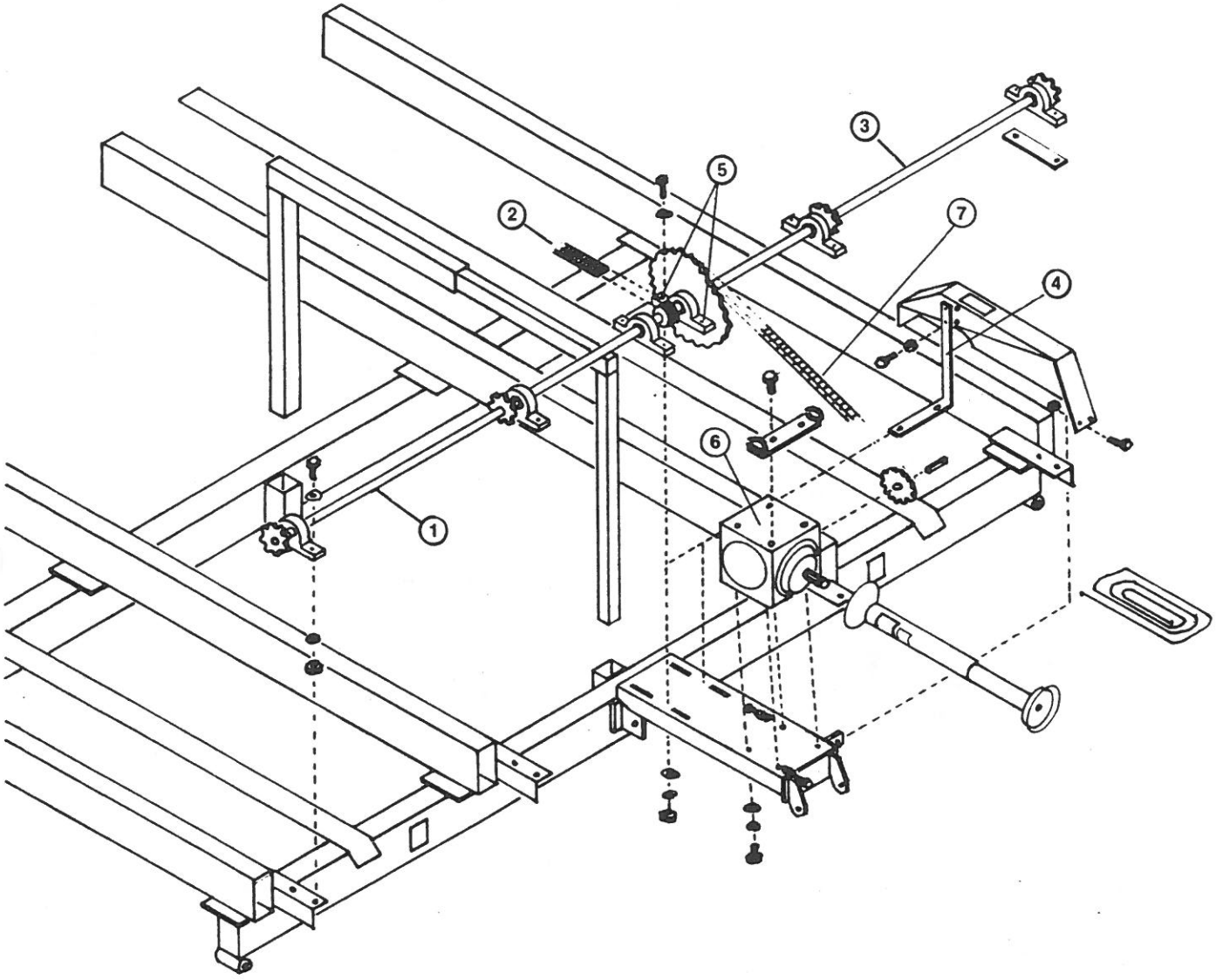


FIGURE 6. Drive Assembly

INSTALLATION OF GEAR BOX

To install gear box, refer to figure #6 and proceed as follows:

1. Position gear box #6 onto gear box mount; Secure with ½x1½ bolt, lock-washer, and flat washer.

NOTE

Do not tighten the bolts until #80 chain is installed and adjusted.

A. Adjustment bolts

1. Thread 5/8x5½ bolt onto gear box mount. Install 5/8 lock nuts. See gear box adjustment for adjustment procedure.

B. #80 Chain Installation

1. Install #80 chain, #7, connecting gear box with chain drive. Secure with connecting link.

C. Gear Box Adjustment

To adjust gear box refer to figure #7 and proceed as follows:

1. To ensure that the gear box sprocket and chain drive sprocket are in line, utilizing square or straight edge, adjust 5/8x5½ bolts, item #1, alternately. See figure 7A.

FIGURE 7. Gear Box Adjustment Chain Installation

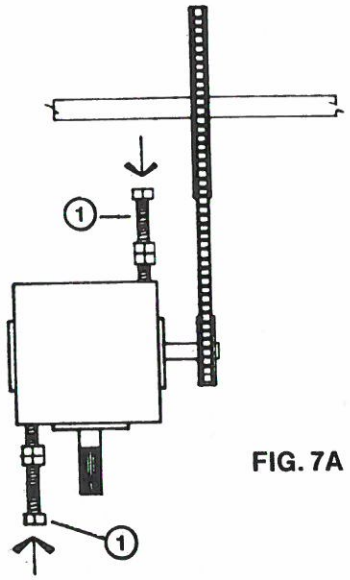


FIG. 7A

NOTE

For proper adjustment, the chain should have ½" up and down movement. See figure 7B.

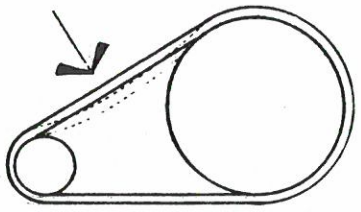


FIG. 7B

INSTALLATION OF CHAIN GUARD

To install chain guard, see figure #6 and proceed as follows:

1. Place chain guard to guard bracket and gear box mount. Secure with 4-⅜x1½ bolt and locknut.

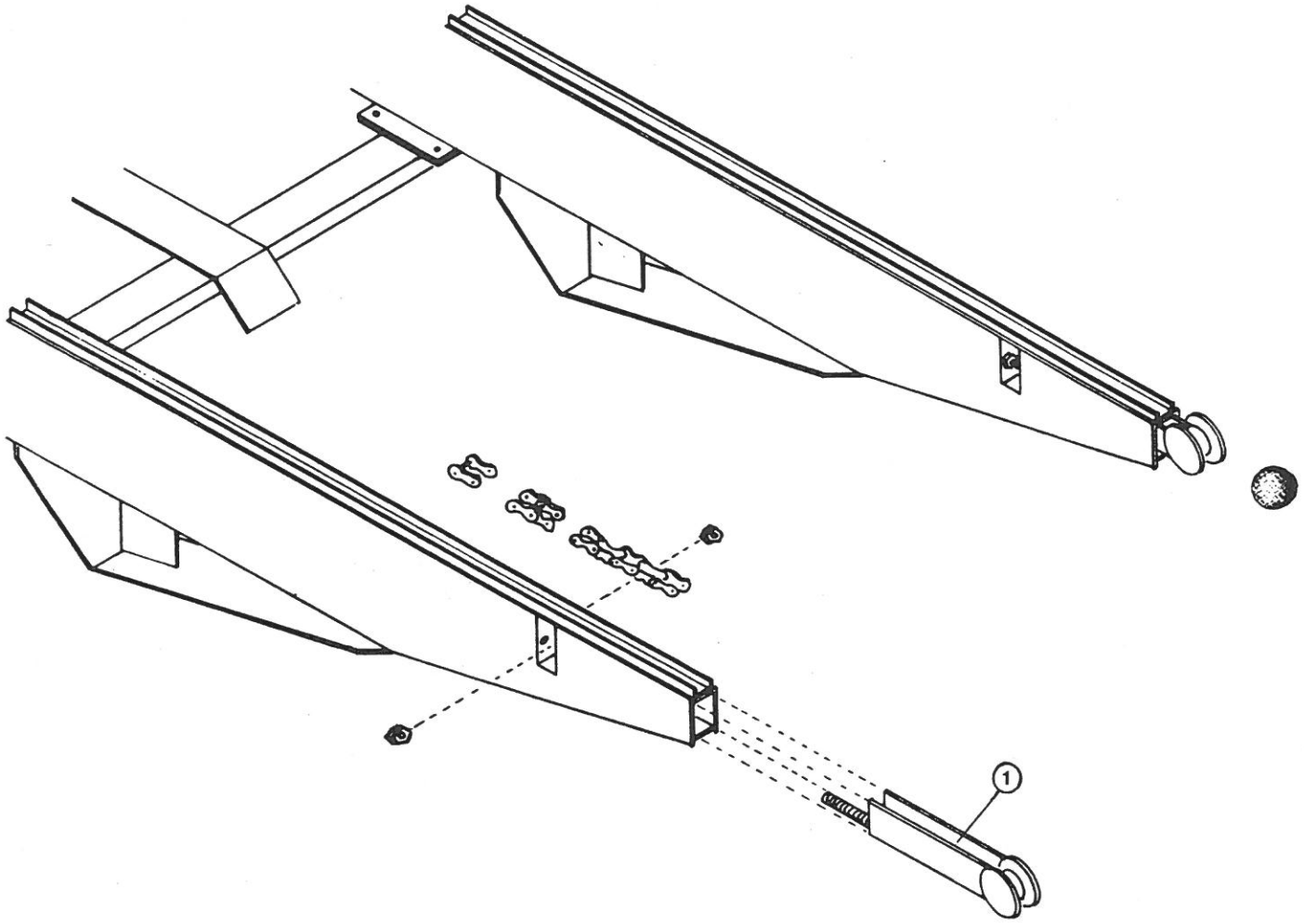


FIGURE 8. Roller Chain Installation

ROLLER CHAIN INSTALLATION

To install roller chain to rails, refer to figure #8 and proceed as follows:

1. Thread single 5/8 nut onto all the chain tighteners, #1.

2. Slide the chain tighteners into the rail pockets and install 5/8 locknut.

3. To install roller chain:

   A. Insert into the entire length of the rail, from the front, a fish line or ¼" rod.
   B. Unroll one chain length on the rail channel, from the rear, unrolling towards the front.
   C. Fasten the roller chain to the fish line; Proceed to pull the chain length thru. Secure with a connecting link and or half links when necessary.

4. Chain adjustment:
   To adjust the roller chain on each rail, grasp the chain on center and lift. The chain should have an 8" lift. To adjust the chain tightener: Loosen 5/8 locknut, tighten first 5/8 nut.

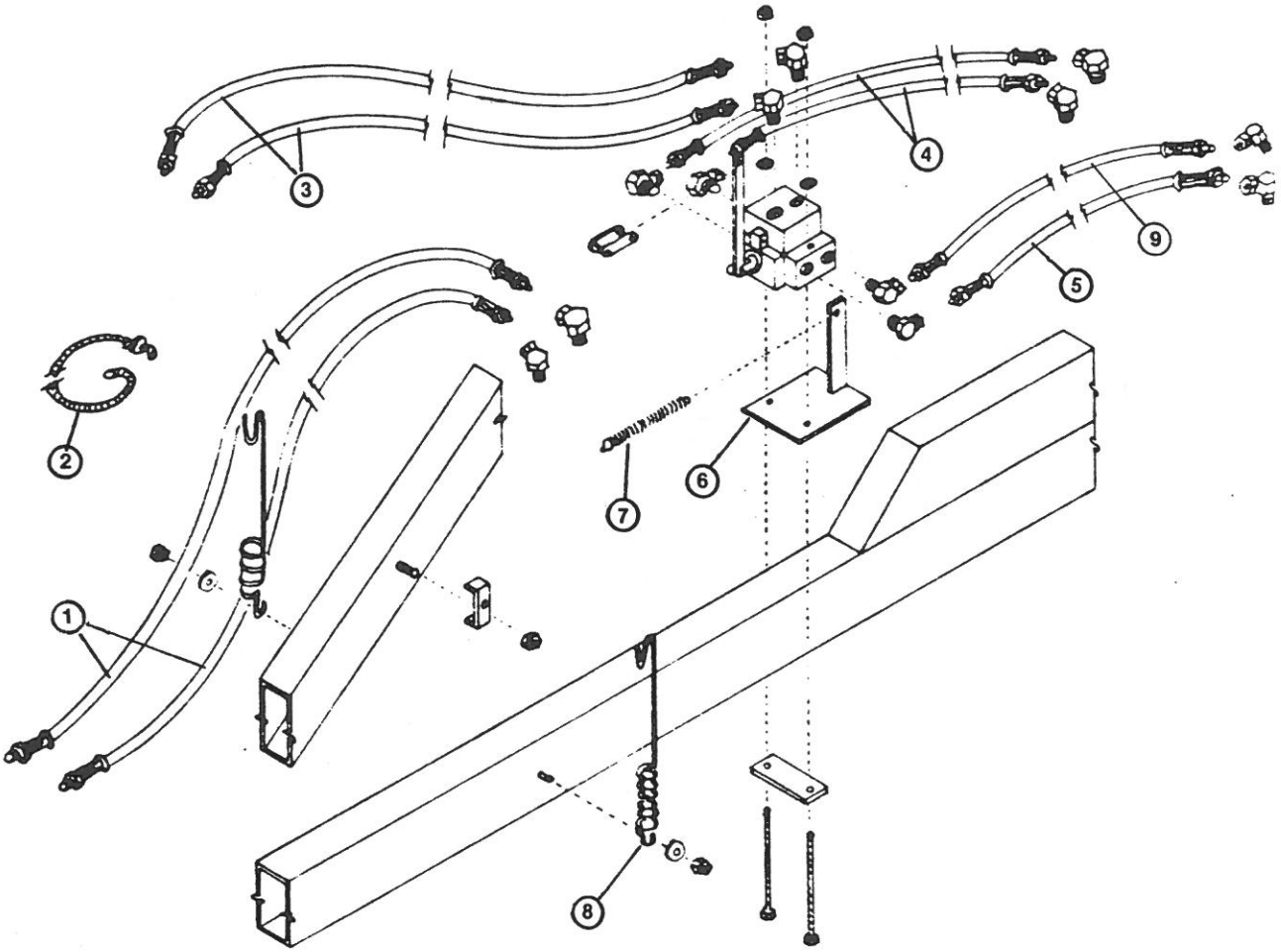


FIGURE 10. Hydraulic Hose Installation

INSTALLATION OF HYDRAULIC HOSES

To install hydraulic hoses refer to figure #10 and proceed as follows:

1. Locate and install selector valve bolting plate, #6 to left A-frame hitch. Secure selector valve to bolting plate with 5/16x9 bolt, lock washer and nut.

2. Identify the hydraulic hoses and group in pairs:
   17'-0 #1
   9'-0 #3, #4
   4'2 #5
   4'-11 #9
3. Install two 17' hoses #1, to the right fork lift cylinder. Lift cylinder into place and install 1x5½ pin, secure with cotter pin. See figure 4, page 11.

IMPORTANT

Allow enough hose in order to operate the lift cylinders freely. Ensure that ½" swivel elbows are positioned to allow uninterrupted free movement of cylinder and hoses.

Secure the17' hoses to the A-frame hitch with the hose clamps provided.

Install the Spring hose holders (2) #8, to the A-frame hitch, secure with ½" flat-washer and nut. Position hoses into hose holder grip.

4. Install (2) 9' hoses, #4, to the left fork lift cylinder. Lift cylinder into place and install 1x5½ pin and secure with cotter pin. See figure #3, page 11.

   Secure hoses #4 to right ports of selector valve. Secure hoses to A-frame hitch with hose clamps.

5. Install hose #5 (4'-2") to shaft end of 4x8 cylinder, secure to left front port of selector valve. Install hose #9 (4'-11) to barrel end of 4x8 cylinder, secure to left rear port of selector valve.

IMPORTANT

Ensure that the ½" swivel elbows are positioned to allow uninterrupted free movement of cylinder and hose.

6. Install (2) 9' hoses #3 to top ports of selector valve. Position the hoses in the spring hose holder grip.

7. Install selector tension spring #7 to bracket and selector handle, secure rope, #2, to selector handle with connecting link.

PRE OPERATION ASSEMBLY

Dealer / Purchaser:

CAUTION:

To fill hydraulic hoses and cylinders with oil, proceed as follows:

1. Install fittings to hose ends; connect hydraulic hoses to the tractor.

2. With forks still in the "down" position, carefully operate controls allowing oil to flow to each fork cylinder.

IMPORTANT

While raising mover bed or fork lifts, check all hoses and cylinders against restrictions.

3. Operate selector control valve; allow scissor cylinder to fill with oil.

4. Before disconnecting hydraulic hoses, raise bale forks to the transport position. Install safety pins.

3 OPTIONS

GEAR BOX:

The Model 88R is a gear box complete with reverse. This option allows the operator to move the bed roller chains forward and backward. This operation enables 12 round bales to be reloaded onto the mover bed.

The gear box comes complete with string holder, 2 ½x1½ bolts and ¼" nylon rope.

4 OPERATION

SAFETY

Refer to the safety section at the front of the manual for CAUTION indications before operating the bale mover. Specific safety instructions are included in the text.

Operate all Bale Mover controls from the tractor seat.

Check with local authorities for regulations concerning highway travel.

TO THE NEW OPERATOR

The Model 12-1500 Laurier Bale Mover is designed for maximum work efficiency with minimum operator fatigue. An unfamiliar operator should spend time to learn the operative characteristics of the machine: utilizing bale forks, selector valve control, scissor jack, PTO, and chain drive. A period of careful practice will be rewarded by safe and efficient operation in the field.

TRACTOR PREPARATION AND HOOK UP

The Laurier 12-1500 Bale Mover must be operated with a tractor equipped with 540 RPM PTO. The correct PTO speed is clearly marked on the drive shaft shield.

The tractor should be of the 65 H.P. class or larger and must have a dual hydraulic system in good working order.

FOR PROPER FORK LIFT FLOATATION

Adjust the tractor drawbar so that the Bale Mover is 12-14 inches above the ground. See Fig. 11. The tractor drawbar must be stationary and the draw pin hole should be directly in line with and 9-15 inches to the rear of the tractor PTO shaft. See figure 11.

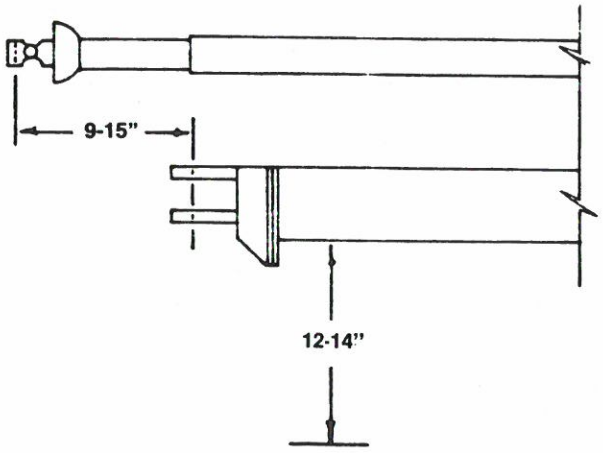


FIGURE 11. Tractor Preparation and Hook Up

Connect the telescoping PTO shaft of the Bale Mover to the tractor PTO.

⚠ DANGER

ROTATING DRIVE LINE

FAILURE TO HEED THESE WARNINGS MAY RESULT IN PERSONAL INJURY OR DEATH.

KEEP CLOTHING, YOURSELF AND OTHERS WELL CLEAR

DO NOT OPERATE UNLESS PTO GUARDS, TRACTOR MASTER SHIELD AND IMPLEMENT GUARDS ARE IN PLACE.

PTO GUARDS MUST TURN FREELY AND BE PROPERLY ATTACHED AND MAINTAINED.

U-JOINT YOKES MUST BE SECURELY LOCKED ONTO TRACTOR AND IMPLEMENT SHAFTS.

BE SURE TRACTOR DRAWBAR AND IMPLEMENT HITCH ARE ADJUSTED CORRECTLY.

GREASE TELESCOPING SHAFT REGULARLY TO MINIMIZE THRUST FORCES.

A-7232-A

Sufficient hydraulic hoses are supplied to reach the tractor. Fittings must be purchased to suit each particular outlet and fitted to the hoses. Connect the hydraulic hoses to the tractor making sure couplings are properly connected.

Store A-frame hitch jack in the horizontal position.

Attach selector valve control rope to the tractor in such a position that it cannot be caught in the power take off or tractor tires, even when making a turn, but can readily be reached from the tractor seat.

If the Bale Mover is equipped with the optional reverse gear box, an additional control rope must be accounted for.

PREPARING THE BALE MOVER FOR THE FIELD

Before commencing to operate the Bale Mover read the service section of this manual and check the following items:

1. Check that the tires are properly inflated. See page 27.
2. Check that PTO shields rotate freely and that the tractor PTO shield is in place. See page 22.
3. Lubricate sparingly all points shown in the lubrication section. See page 26.
4. Check for correct chain tension. See page 16, 18.

CAUTION:

BEFORE OPERATING HYDRAULICS, REMOVE FORK LIFT SAFETY PINS. STAY CLEAR OF FORKS. SEE PRE OPERATION ASSEMBLY, PAGE 20.

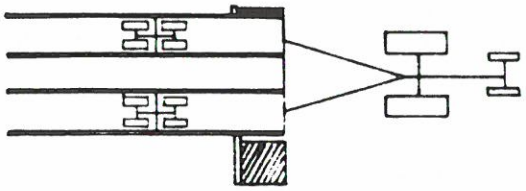


FIGURE 12

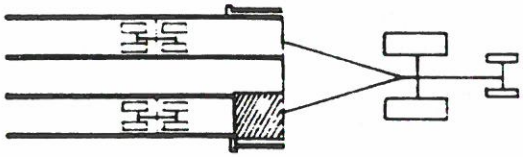


FIGURE 13

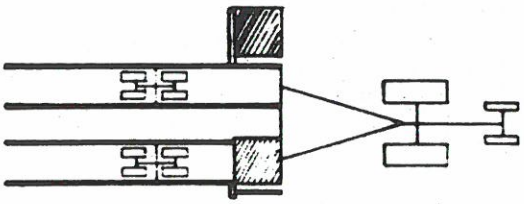


FIGURE 14

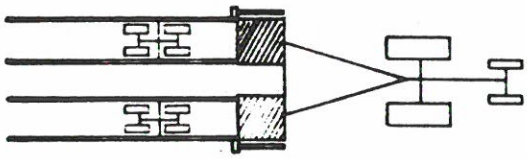


FIGURE 15

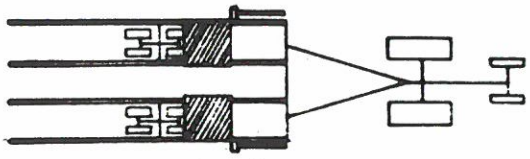


FIGURE 16

MODE OF OPERATION

The Laurier 12 Bale Mover is able to pick up and transport 12-1500 pound bales. Follow the mode of operation below to ensure a safe and efficient procedure:

1. Approach the round bale with the right fork in the lowered position, Fig. 12. Advance till the bale rests firmly between the fork lift teeth, Fig. 12. Raise the fork, until the bale falls onto the mover bed, Fig. 13.

2. Approach the second round bale with the left fork in the lowered position, Fig. 14. Advance till the bale rests firmly between the fork lift teeth. Raise the fork until the bale falls onto the mover bed, Fig. 15.

3. Engage PTO. Operate power take off until the first pair of bales move back clear of the fork. See Fig. 16. Stop PTO.

NOTE

Depending on bale size, in some cases to enable the first pair of bales to move back clear of the fork lifts, the forks may have to be lowered slightly.

4. Continue to load round bales in similar right left fashion until 12 bales are loaded.

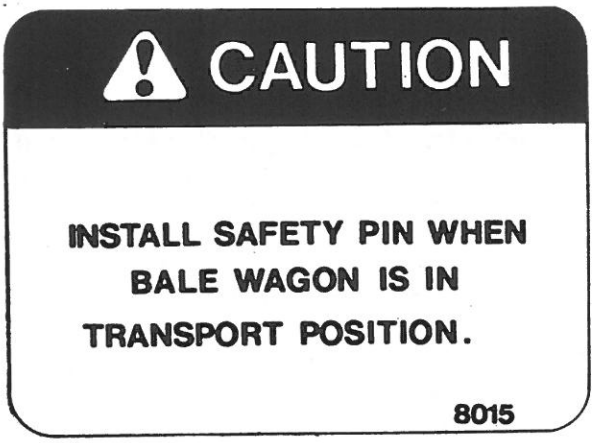
TRANSPORTING

To transport loaded Bale Mover:

With forks in upward position, install safety pins.

CAUTION:

WHEN TRANSPORTING BALE MOVER ON PUBLIC ROADS OR HIGHWAY BE SURE TO INSTALL FORK LIFT SAFETY PINS. BE SURE THAT THE MACHINE IS EQUIPPED WITH A SLOW MOVING EMBLEM THAT IS CLEARLY VISIBLE FROM THE REAR.



UNLOADING

To unload the 12 Bale Mover proceed as follows: follows:

IMPORTANT

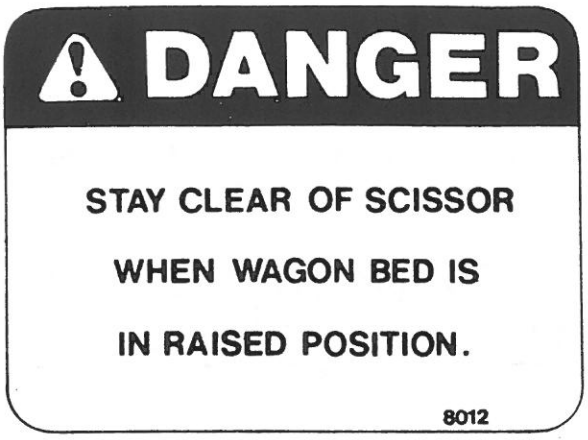
Depending on bale size, in some cases, to enable the loaded bale to move past the fork, the forks may have to be lowered slightly.

CAUTION:

BE SURE TO REMOVE FORK LIFT SAFETY PINS BEFORE OPERATING HYDRAULICS.

Choose a level, clean area, free from overhead wires, to unload Bale Mover:

1. OPERATE the selector control valve, this engages the scissor lift cylinder. Raise the mover bed to full extended height.



IMPORTANT

Ensure that PTO shaft is free from binding and retain proper extension. See page 22.
KEEP CLEAR OF PTO. DO NOT DISMOUNT TRACTOR WHEN PTO IS ENGAGED.

2. Engage PTO.

3. Advance tractor in ratio with chain drive speed. Retain tractor speed constant till all the bales are unloaded.

IMPORTANT

The ratio of tractor advancement to chain speed must be kept constant, otherwise the drive chain will cut the bale strings or cause improper bale spacing.

4. Disengage Power take off.

5. Operate the selector control valve, engage scissor cylinder to lower the mover bed to the transport position.

5 LUBRICATION

All parts should be lubricated as indicated with clean fresh lubricant. Any broken or missing grease fittings should be replaced. Clean all grease fittings prior to using grease gun.

⚠ CAUTION

KEEP HANDS AND CLOTHING AWAY FROM MOVING CHAINS. STOP MACHINE BEFORE MAKING ADJUSTMENTS.

8014

NOTE

Shut off tractor and wait until the machine has stopped before attempting to lubricate any parts except for the roller chains which must be oiled while the bale wagon is operating very slowly. Keep hands and clothing away from chains where they can be caught or pinched. Do not wear loose or ragged clothing which can become caught in moving parts easily. Properly secure all shields after servicing the machine.

INTERVALS AND TYPE

PTO Drive Shaft:

Grease universal joints daily with SAE multipurpose grease. Grease sliding joint of PTO shaft with SAE multipurpose grease every 20 hours of operation. A few drops of oil on PTO safety shield nylon bearings helps ensure that shields rotate freely on shaft.

Gear Box:

Change gear box oil after first 20 hours of operation and at the start of every season thereafter. Fill with SAE #90 gear oil until it flows out of the oil level plug.

Roller Chain:

(drive sprocket) Oil daily with SAE #30 machine oil or equivalent.

Roller Chain:

(bed) Oil semi-annually with SAE #30 machine oil or equivalent.

Grease Fittings:

Grease daily with SAE multipurpose grease. Four fittings on oscillating axles, four fittings on 3x6 and 4x6 cross members.

Wheel Bearings:

Hand pack every 500 hours or yearly with SAE multipurpose grease.

Lift Jack:

Oil periodically with SAE #30 oil.

6 MAINTENANCE

Wheels Tires Miscellaneous

Ensure that all wheel bolts are tight. Tighten after first hour of operation. Check daily to ensure that all wheel bolts are tight.

Tire Care

Properly inflated tires are important in the bale mover operation. Improper tire pressure causes premature wear and weakening of tire structure. Tire pressure: 40 psi for 9.5Lx15x8 ply.

Oscillating Axles

Check the oscillating axle mounting nuts periodically during the first few days of operation and tighten if necessary.

CAUTION:

DO NOT OPERATE BALE MOVER WITH A LOOSE WHEEL, HUB OR RIM.

7 ADJUSTMENT

Fork Adjusting:

Bale mover fork teeth are equipped with set screws. With the fork securely locked in transport position, adjust inside fork tooth level with outside rail. Secure set screws.

Depending on bale size and conditions adjust outside fork tooth to suit round bale. See figure 19.

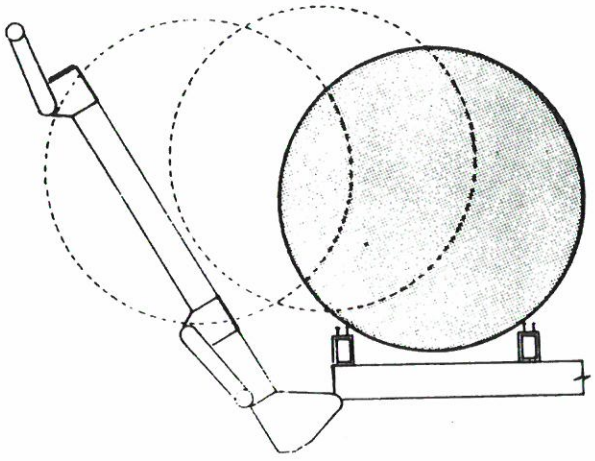


FIGURE 19. Fork Adjusting

Bed Chains:

Keep bed chains tight to proper tension. See page 18. Ensure that chains do not warp or fall off the track. See assembly page 18.

Drive Chain:

Keep gear box drive chain tight to proper tension and in line, since any misalignment will greatly accelerate wear. See Assembly Gear Box Adjustment, page 16.

PTO:

Ensure that PTO shaft is maintained at correct operating distance at all times. See Tractor Preparation and Hook up, page 22. For lubrication see page 26.

Hose:

Ensure that sufficient hose is always provided to allow free movement of the cylinders. Loosen hose clamps and readjust hoses if necessary.

8 STORAGE

Preparation:

1. Drain oil from gear box. Fill with new recommended fluid. See page 26.

2. Thoroughly clean the bale wagon of all dirt and accumulated grease.

3. Supply new grease to all grease fittings. See recommendations page 26.

4. Coat all exposed hydraulic cylinder shaft areas with grease or rust preventative.

5. Clean and protect hydraulic hose ends.

Storing:

1. Touch up all scratched or chipped painted areas.

2. Jack up Bale Mover, and block up to remove weight on the tires.

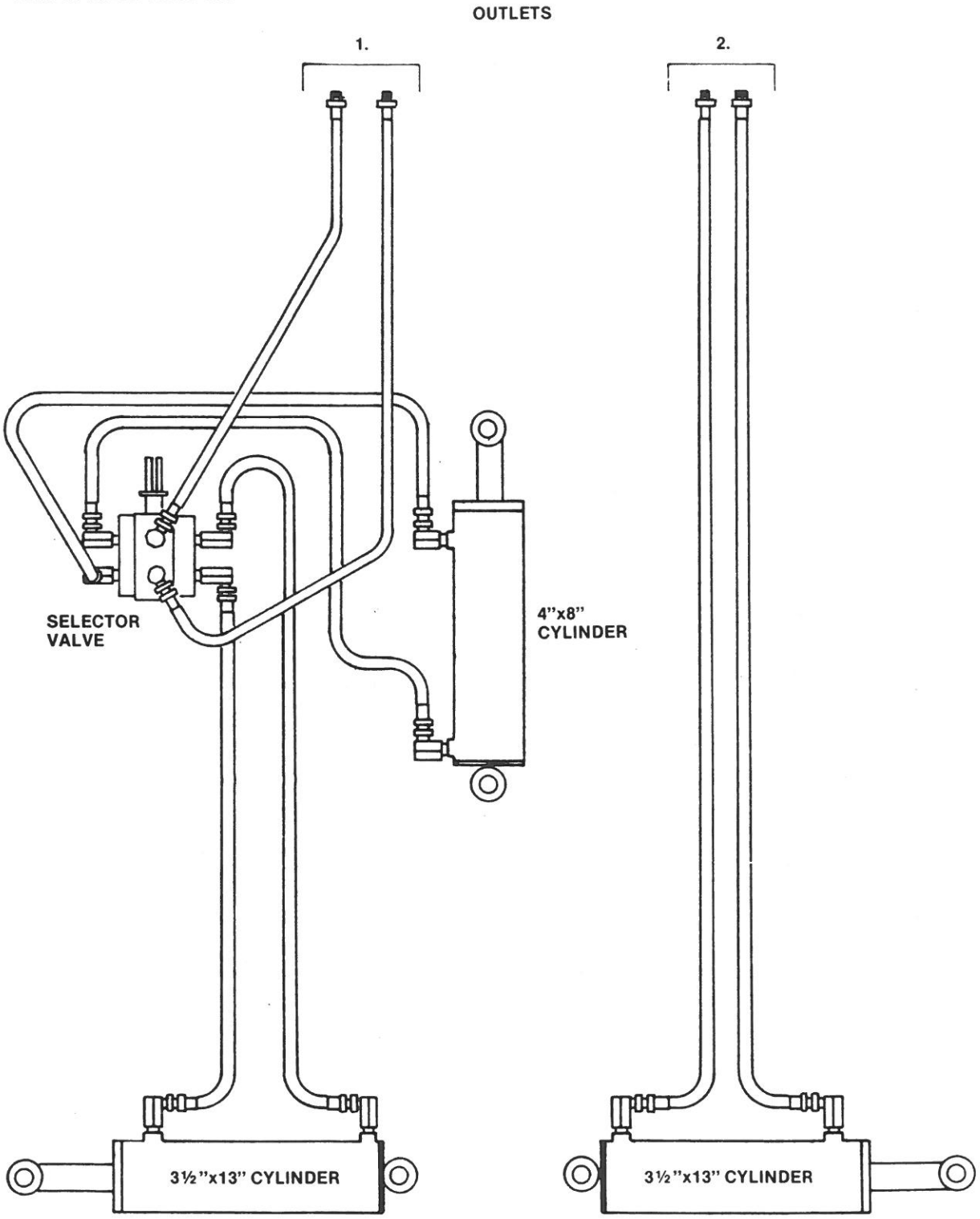
3. Cover tires if they will be exposed to heat or direct sunlight.

9 TROUBLE SHOOTING

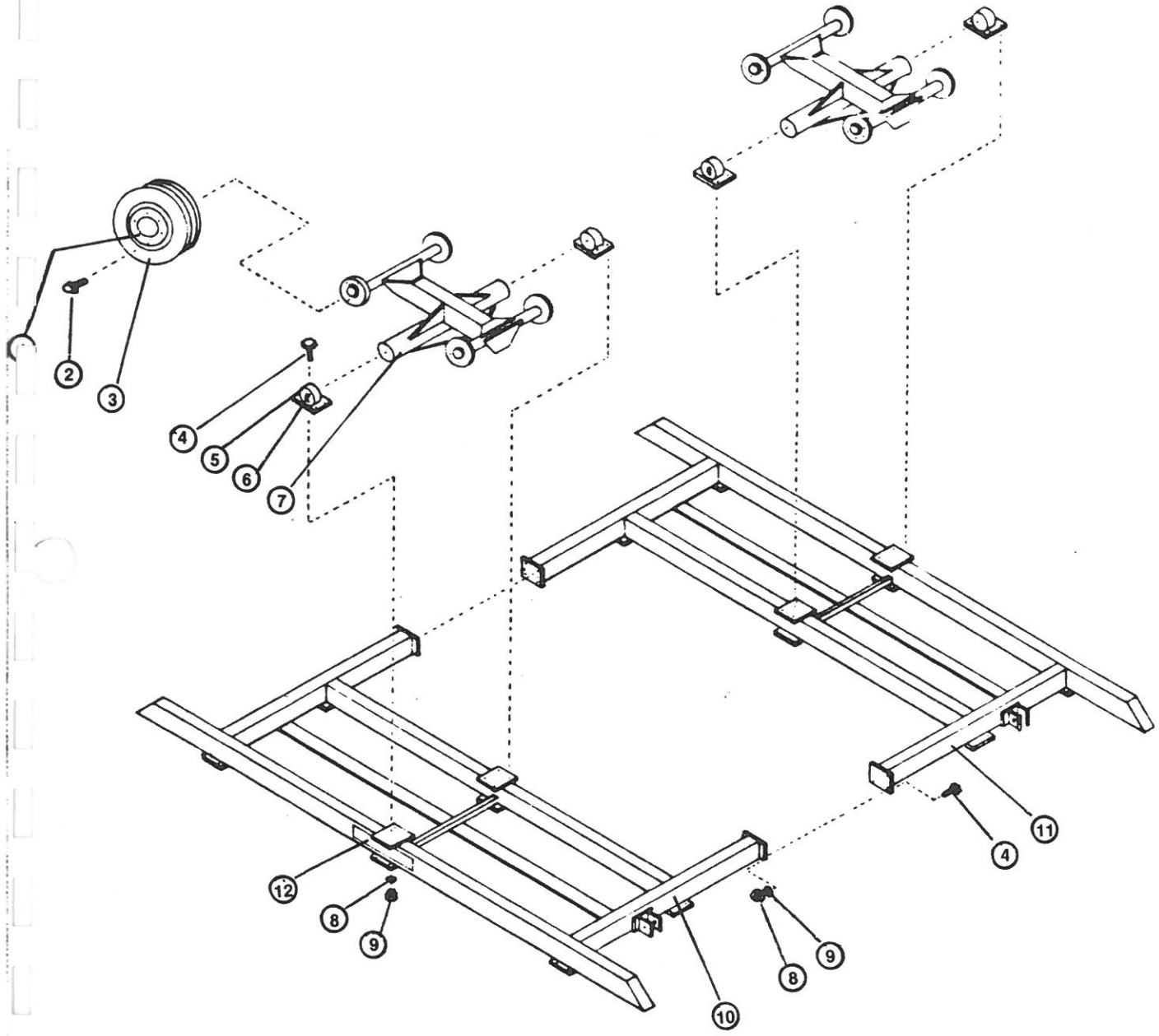
SYMPTOM	PROBABLE CAUSE	REMEDY
1. Loads only 10 bales or less;	1. reversing too far;	1. pack bales on mover closer;
	2. depending on bale type;	2. will accept 12-5' bales;
2. strings cut when unloading;	1. tractor/chain ratio uneven;	1. correct ratio see page 25
3. chain falls from track;	1. chain not tight;	1. tighten, see page 18
	2. forks to close to mover bed;	2. adjust, see page 28
4. chains twist or lean;	1. pressure from bales;	1. straighten with bar;
5. bed deck does not raise;	1. low oil;	1. check oil level;
	2. selector valve not operative;	2. check selector control;
6. cylinders not extended fully;	1. oil level low;	1. check tractor reservoir;
7. cylinders leak;	1. damaged seals;	1. check or replace;

10 SYSTEM SCHEMATICS

HYDRAULIC CIRCUIT

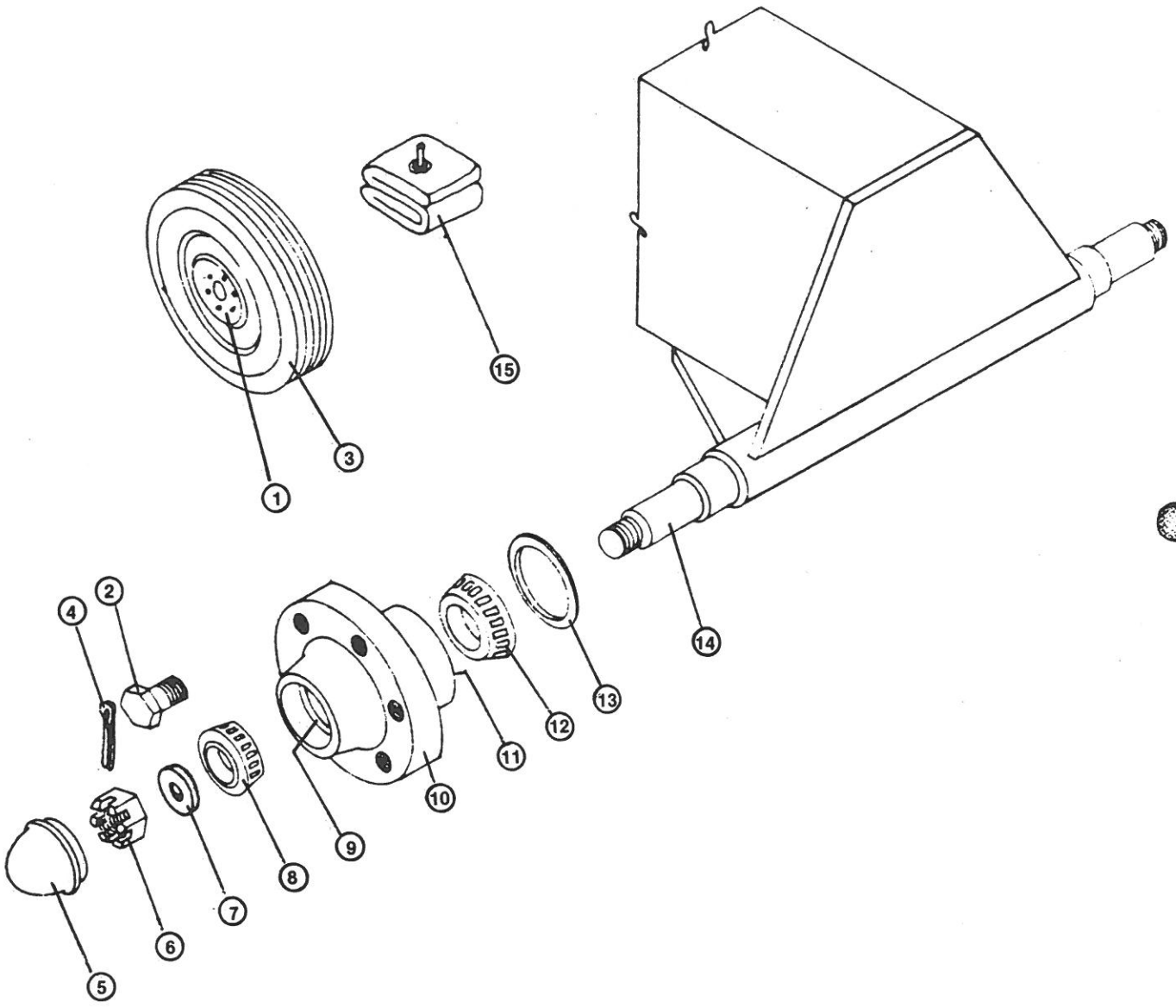


11 PARTS CATALOGUE



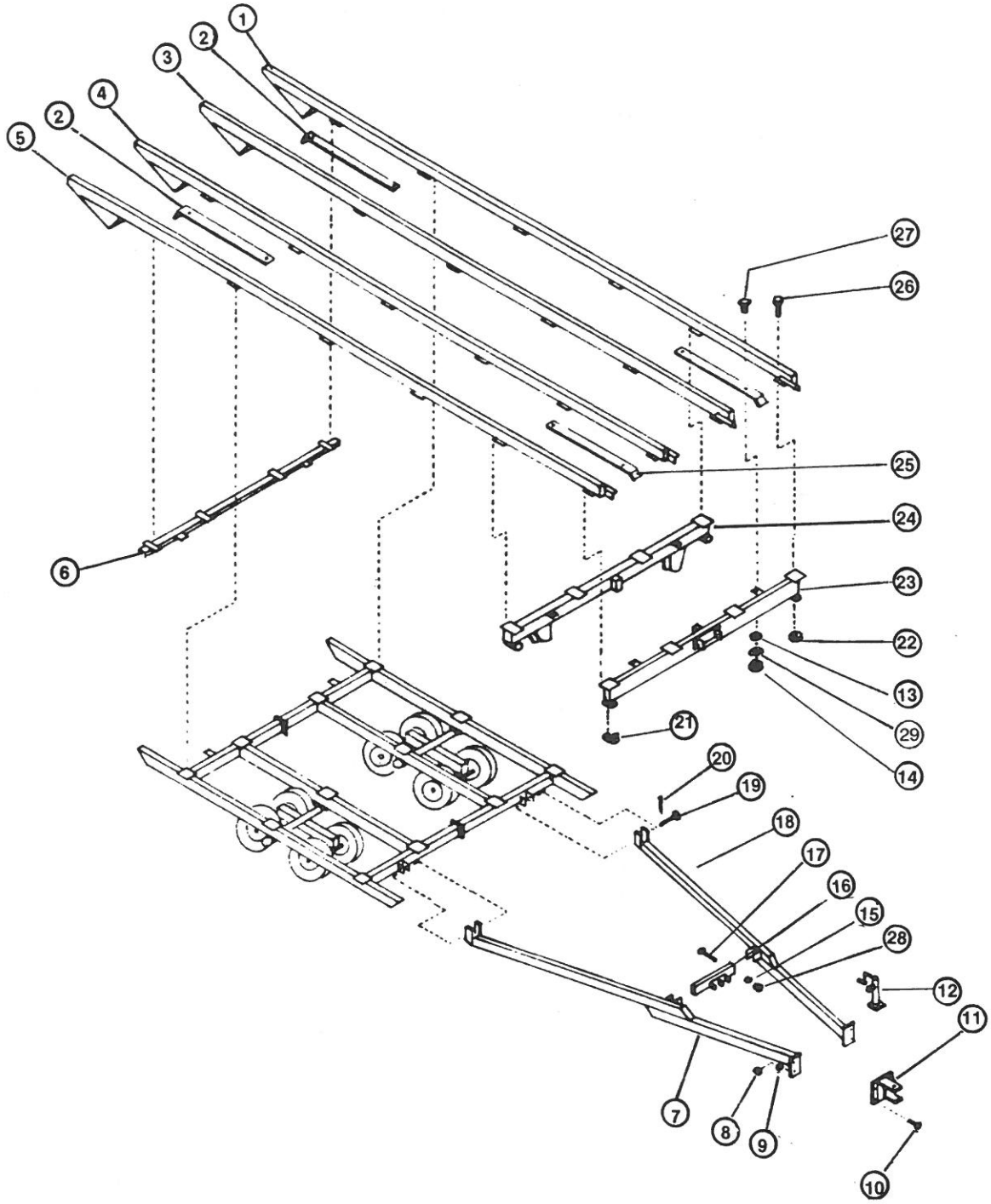
SUB FRAME ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
1	20-170	15x8x6 6 HOLE WHEEL	8
2	20-173	9/16 WHEEL BOLT	48
3	20-171	9.5Lx15 8 PLY TIRE	8
4	23-304	½x1½ BOLT	28
5	21-182	OSCILLATING AXLE POCKET	4
6	22-219	1/8 NPT GREASE NIPPLE	4
7	21-183	OSCILLATING AXLE	2
8	23-321	½ LOCKWASHER	28
9	23-312	½ NUT	28
10	21-180	LEFT SUBFRAME	1
11	21-181	RIGHT SUBFRAME	1
12	19-160	DECAL (LAURIER)	2



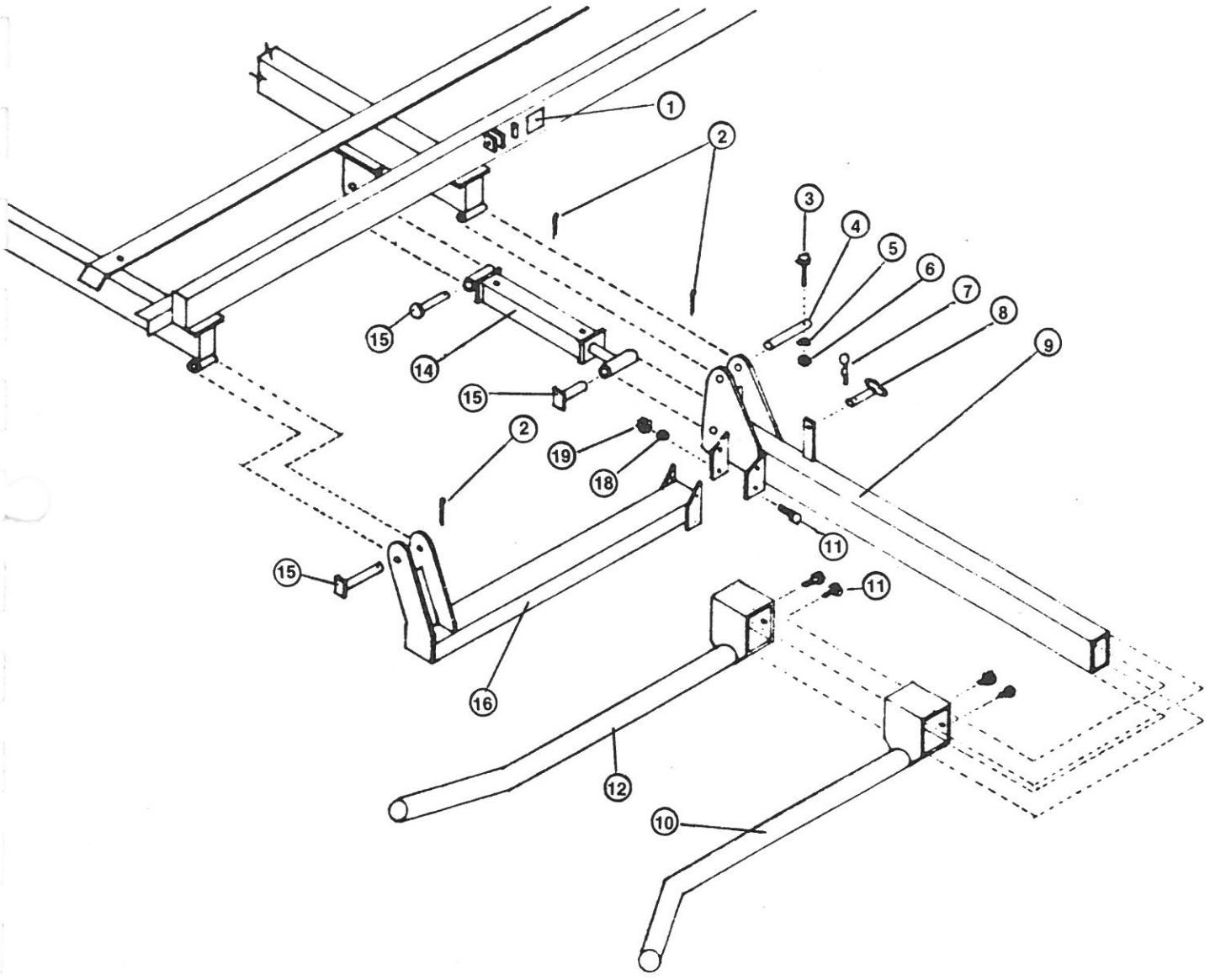
HUB ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
1	20-170	15x8x6 6 HOLE WHEEL	8
2	20-173	9/16 WHEEL BOLT	48
3	20-171	9.5L x 15 8 PLY TIRE	8
4	20-182	3/16x2½ COTTER PIN	8
5	20-183	DUST CAP 18	8
6	20-181	CASTELATED NUT	8
7	20-180	1" WASHER	8
8	20-177	OUTER CONE LM48548	8
9	20-175	OUTER CUP, RACE LM48510	8
10	20-174	H618 6 HOLE HUB	8
11	20-176	INNER CUP, RACE 25520	8
12	20-178	INNER CONE 25580	8
13	20-179	SEAL SE-30	8
14	20-184	S618 2x27 SPINDLE	4
15	20-172	TUBE	8



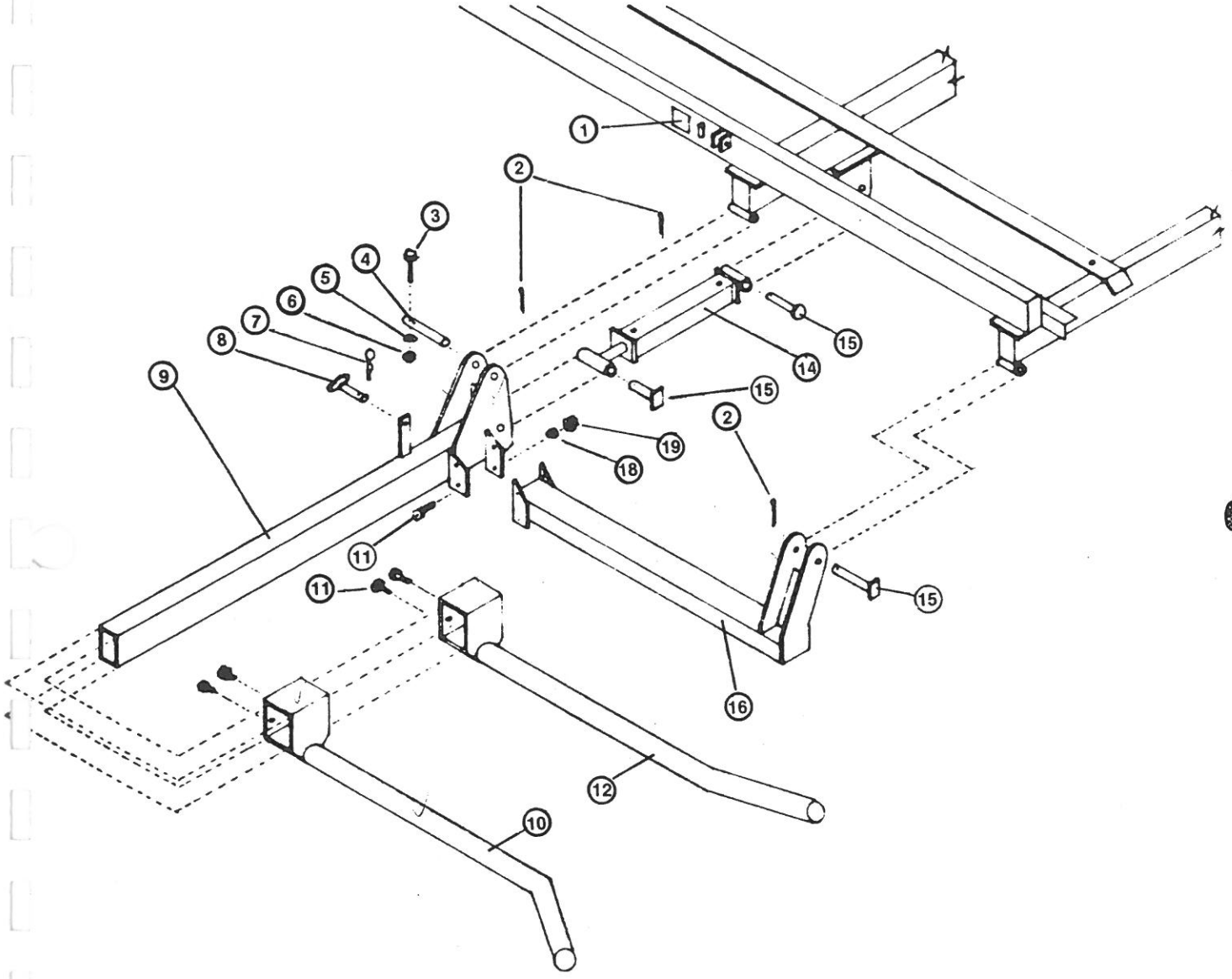
A-FRAME HITCH
AND RAIL ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
1	21-191	RAIL OUTSIDE LEFT	1
2	18-141	BALE SLIDE REAR	2
3	21-192	RAIL INSIDE LEFT	1
4	21-193	RAIL INSIDE RIGHT	1
5	21-194	RAIL OUTSIDE RIGHT	1
6	21-190	CHANNEL CROSS MEMBER	1
7	21-185	A-FRAME HITCH RIGHT	1
8	23-314	3/4 NUT	4
9	23-322	3/4 LOCKWASHER	4
10	23-309	3/4x2 BOLT	4
11	21-187	HITCH	1
12	18-143	JACK	1
13	23-323	½ FLAT WASHER	8
14	23-312	½ NUT	8
15	23-324	5/8 LOCKWASHER	4
16	21-186	HITCH CROSS PIECE	1
17	23-306	5/8x4½ BOLT	4
18	21-184	A-FRAME HITCH LEFT	1
19	22-215	1¼x5 PIN	2
20	22-218	¼x2½ COTTER PIN	2
21	22-219	1/8 NPT GREASE NIPPLE	4
22	23-311	3/8 NUT	88
23	21-188	3x6 CROSS MEMBER	1
24	21-189	4x6 CROSS MEMBER	1
25	18-142	BALE SLIDE, FRONT	2
26	23-302	3/8x1 BOLT	88
27	23-303	½ CARRIAGE BOLT	8
28	23-313	5/8 NUT	4
29		½ LOCKWASHER	8



LEFT FORK ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
1	19-161	DECAL (SAFETY PIN)	1
2	22-218	¼ x 2½ COTTER PIN	3
3	23-300	5/16x3 BOLT	1
4	22-214	1¼ x 7 PIN	1
5	23-320	5/16 LOCKWASHER	1
6	23-310	5/16 NUT	1
7	22-217	2½ HAIRPIN CLIP	1
8	22-216	⅝x3½ PIN	1
9	21-195	FORK SLIDE LEFT	1
10	21-197	LEFT FORK	1
11	23-307	5/8x1½ BOLT	8
12	21-198	RIGHT FORK	1
14	15-100	3½x13 CYLINDER	1
15	22-213	1x6 PIN	3
16	21-201	FORK FRAME LEFT	1
18	23-324	⅝ LOCKWASHER	4
19	23-313	⅝ NUT	4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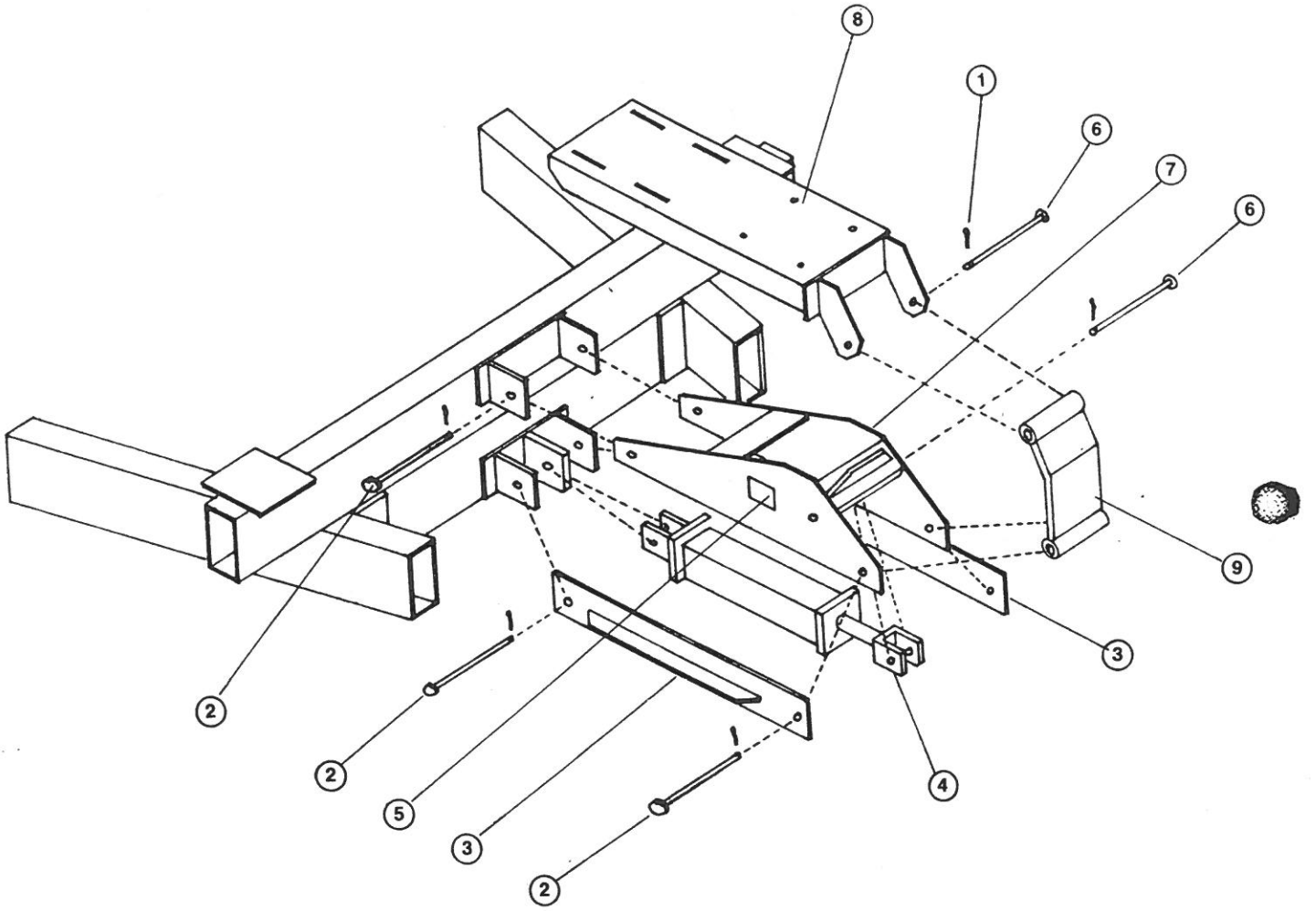
ITEM	PART NUMBER	DESCRIPTION	QTY
1	19-161	DECAL (SAFETY PIN)	1
2	22-218	¼ x 2½ COTTER PIN	3
3	23-300	5/16x3 BOLT	1
4	22-214	1¼ x 7 PIN	1
5	23-320	5/16 LOCKWASHER	1
6	23-310	5/16 NUT	1
7	22-217	2½ HAIRPIN CLIP	1
8	22-216	⅝x3½ PIN	1
9	21-196	FORK SLIDE RIGHT	1
10	21-198	RIGHT FORK	1
11	23-307	5/8x1½ BOLT	8
12	21-197	LEFT FORK	1
14	15-100	3½x13 CYLINDER	1
15	22-213	1x6 PIN	3
16	21-202	FORK FRAME RIGHT	1
18	23-324	⅝ LOCKWASHER	4
19	23-313	⅝ NUT	4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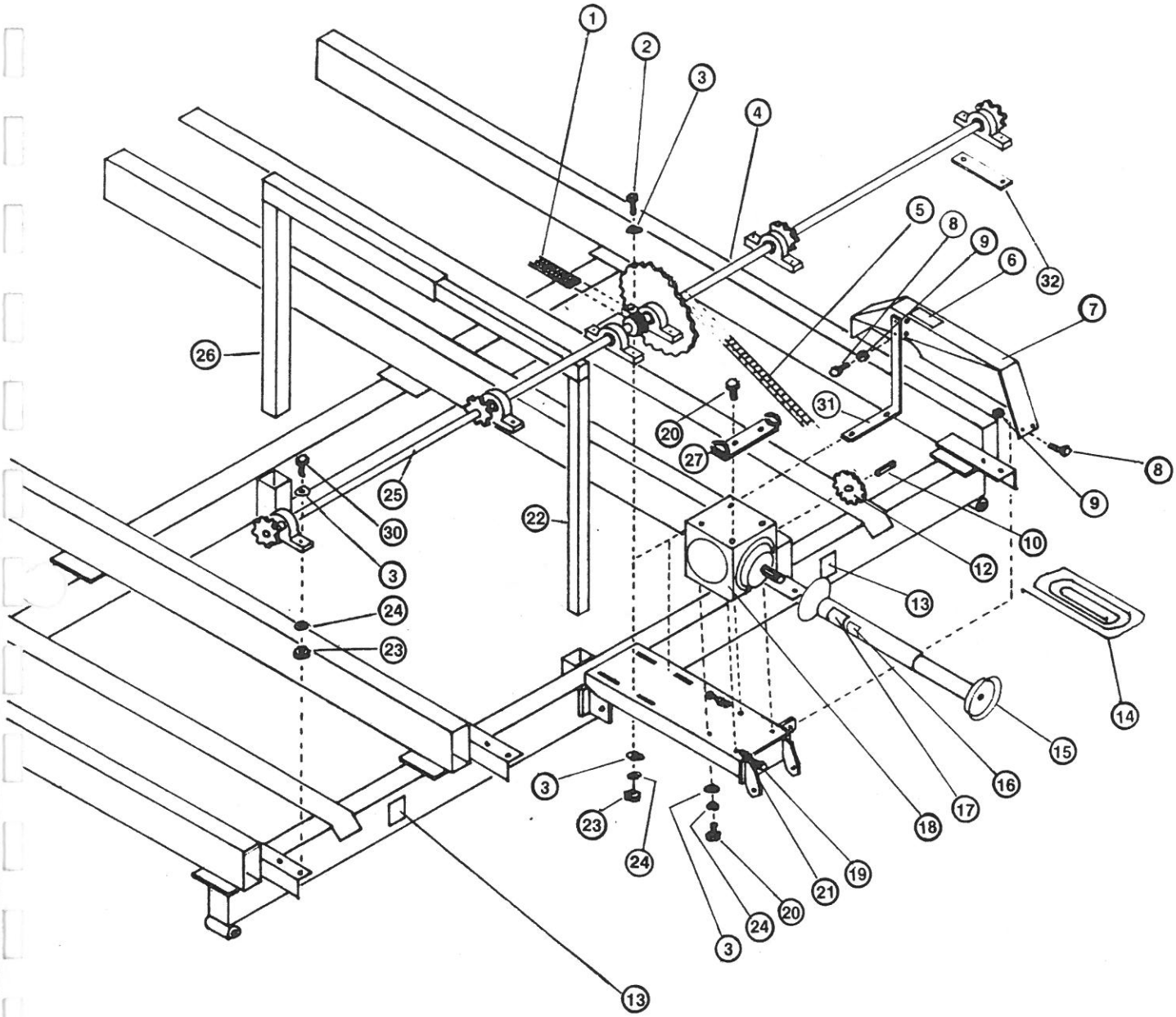
ITEM	PART NUMBER	DESCRIPTION	QTY
1	22-218	¼ x 2½ COTTER PIN	5
2	22-210	1x8⅞ PIN	3
3	21-200	SIDE PLATE	2
4	15-101	4x8 CYLINDER	1
5	19-162	DECAL (SCISSOR)	1
6	22-211	1x7⅞ PIN	2
7	21-199	SCISSOR	1
8	21-203	GEAR BOX MOUNT	1
9	21-204	STABILIZER	1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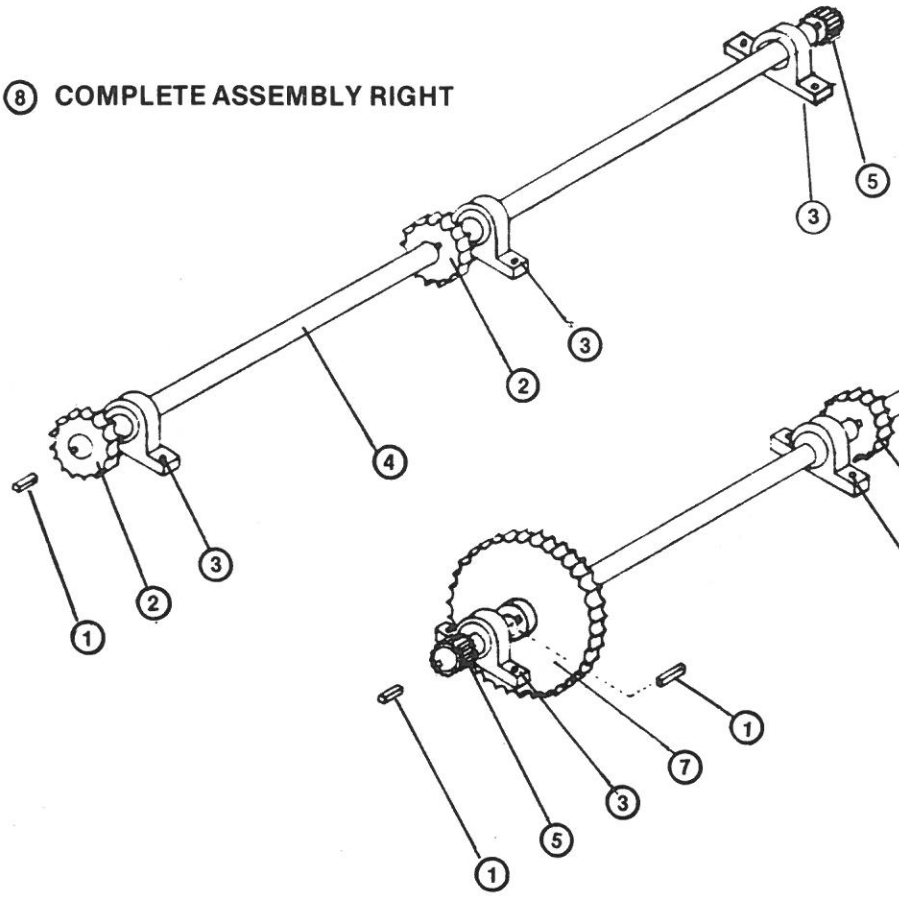
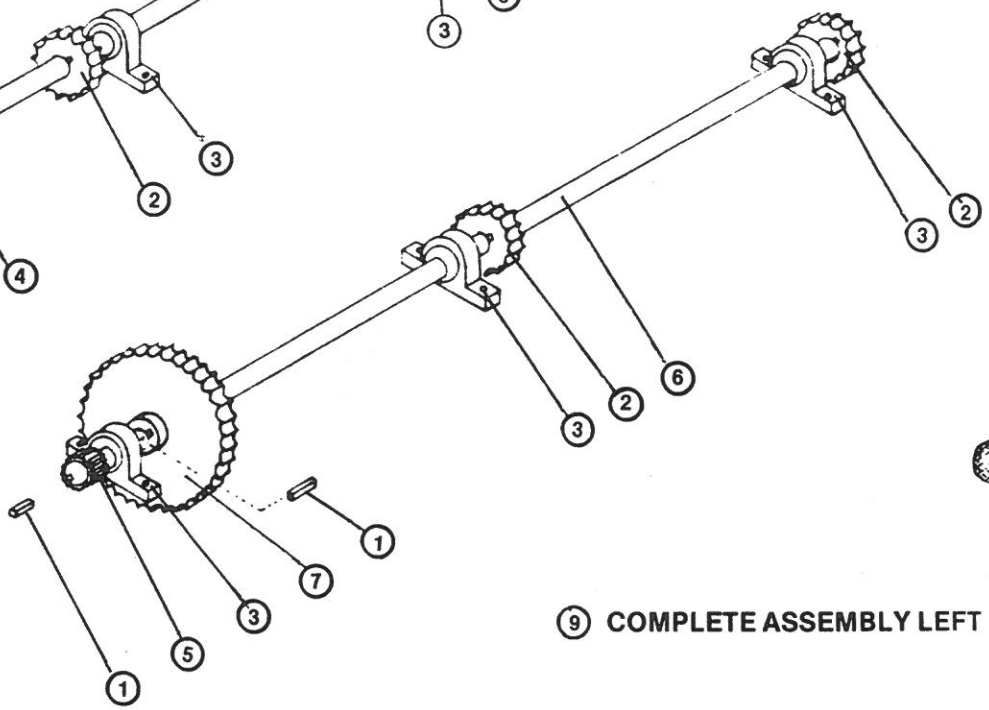
ITEM	PART NUMBER	DESCRIPTION	QTY
1	16-112	18L R502 CHAIN C/W LINK	1
2	23-305	½x2¼ BOLT	2
3	23-323	½ FLAT WASHER	16
4	16-123	SHAFTING COMPLETE L	1
5	16-111	#80 CHAIN C/W LINK	1
6	19-163	DECAL (SAFETY SHIELD)	1
7	18-140	CHAIN GUARD	1
8	23-326	⅜x1½ BOLT	4
9	23-311	⅜ LOCKNUT	4
10	16-118	5/16x2 KEYWAY	1
12	16-117	80B 11x13/8 SPROCKET	1
13	19-165	DECAL (KEEP AWAY)	2
14	17-134	ROPE (OPTIONAL)	1
15	17-133	D-7981-OW/QD POWER SHAFT	1
16	19-166	DECAL (SAFETY)	1
17	19-167	DECAL (DANGER)	1
18	17-130	MODEL 88 GEAR BOX	1
	17-131	MODEL 88R (OPTIONAL)	1
19	23-308	5/8x5½ BOLT	2
20	23-304	½x1½ BOLT	4
21	23-313	5/8 NUT	2
22	18-145	BALE DIVIDER	1
23	23-312	½ NUT	10
24	23-321	½ LOCKWASHER	16
25	16-122	SHAFTING COMPLETE R	1
26	18-146	BALE DIVIDER	1
27	17-132	ROPE DIVIDER (OPTIONAL)	1
28	19-168	DECAL (ADJUST)	1
30	23-325	½x2 BOLT	10
31	21-205	GUARD BRACKET	1
32	21-206	BEARING SHIM	2

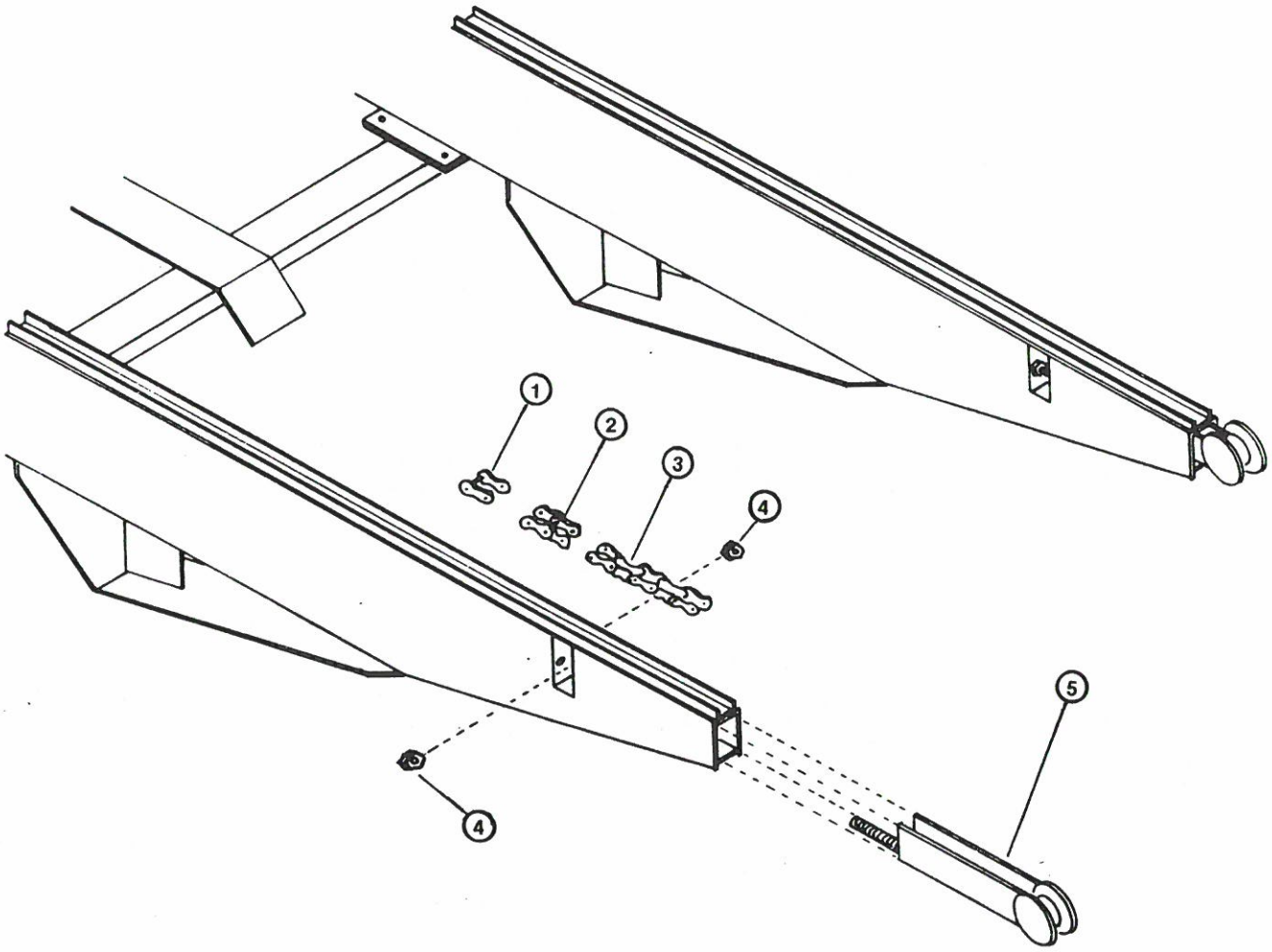
⑧ COMPLETE ASSEMBLY RIGHT





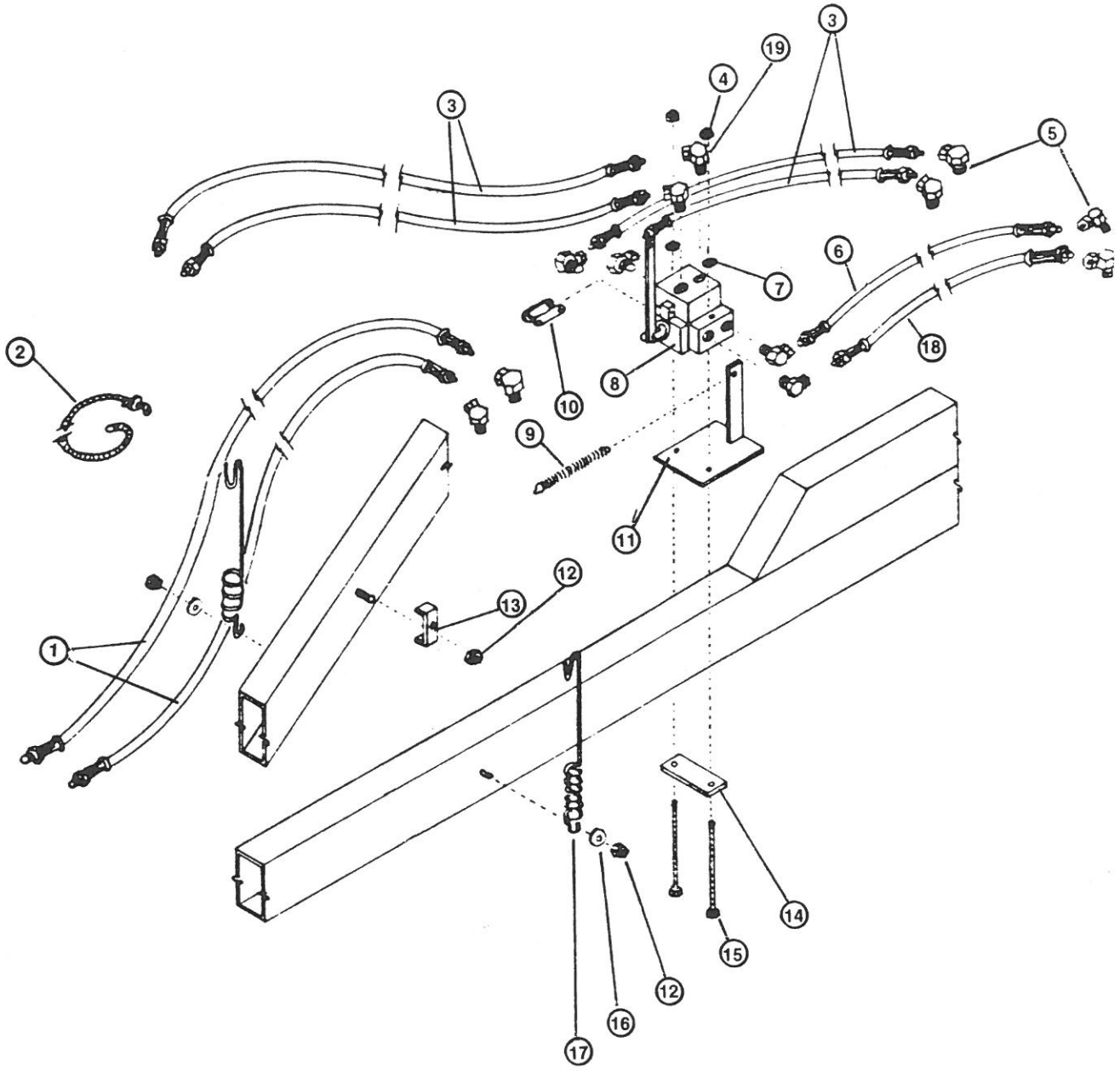
⑨ COMPLETE ASSEMBLY LEFT

ITEM	PART NUMBER	DESCRIPTION	QTY
1	16-119	3/8x2¼ KEY	7
2	16-115	2062 1¾x10 SPROCKET	4
3	16-113	N-OCP209-1¾ BEARING	6
4	16-120	RIGHT SHAFT	1
5	16-116	50B-182x1¾ COUPLER	2
6	16-121	LEFT SHAFT	1
7	16-114	80B 45x1¾ SPROCKET	1
8	16-122	COMPLETE ASSEMBLY R	1
9	16-123	COMPLETE ASSEMBLY L	1



ROLLER CHAIN

ITEM	PART NUMBER	DESCRIPTION	QTY
1	18-153	CONNECTING LINK	4
2	18-154	HALF LINK	4
3	16-110	2062 ROLLER CHAIN	4
4	23-313	5/8 NUT	8
5	18-155	CHAIN TIGHTENER	4



HYDRAULIC HOSE ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	QTY
1	15-104	½x17' HOSE	2
2	18-149	SELECTOR VALVE STRING	1
3	15-102	½x9' HOSE	4
4	23-310	5/16 NUT	2
5	15-105	SWIVEL ELBOW 6OUAO808	6
6	15-103	½"x4'-11" HOSE	1
7	23-320	5/16 LOCKWASHER	2
8	15-107	SELECTOR VALVE DS75	1
9	18-150	TENSION SPRING	1
10	18-153	CONNECTING LINK	1
11	18-147	HOLDING PLATE	1
12	23-312	½ NUT	9
13	18-152	HOSE CLAMP	7
14	18-148	BOLTING PLATE	1
15	23-301	5/16x9 BOLT	2
16	23-323	½ FLATWASHER	2
17	18-151	HOSE HOLDER	2
18	15-108	½"x4'-2" HOSE	1
19	15-106	½x¾ SWIVEL ELBOW	6

12 INDEX

PART NO.	PGE.	ITM.	DESCRIPTION
15-100	39	14	3½ X 13 CYLINDER
15-100	41	14	3½ X 13 CYLINDER
15-101	43	4	4 X 8 CYLINDER
15-102	49	3	½" X 9' HOSE
15-103	49	6	½" X 4'-11" HOSE
15-104	49	1	½ X 17'HOSE
15-105	49	5	SWIVEL ELBOW 60UA0808
15-106	49	19	½ X ¾ SWIVEL ELBOW
15-107	49	8	SELECTOR VALVE DS75
15-108	49	18	½" X 4'-2" HOSE
16-110	48	3	2062 ROLLER CHAIN
16-111	45	5	#80 CHAIN C/W LINK
16-112	45	1	18L R502 CHAIN C/W LINK
16-113	47	3	N-OCP209 — 1¾ BEARING
16-114	47	7	80B 45 X 1¾ SPROCKET
16-115	47	2	2062 1¾ X 10 SPROCKET
16-116	47	5	50B-182 X 1¾ COUPLER
16-117	45	12	80B 11 X 1⅜ SPROCKET
16-118	45	10	5/16 X 2 KEY
16-119	47	1	⅜ X 2¼ KEY
16-120	47	4	RIGHT SHAFT
16-121	47	6	LEFT SHAFT
16-122	47	8	COMPLETE ASSEMBLY R
16-123	47	9	COMPLETE ASSEMBLY L
N			MA-40-929 GEARBOX
17-130	45	18	MODEL 88 GEAR BOX
17-131	45	18	MODEL 88R GEAR BOX (OPTIONAL)
17-132	45	27	ROPE DIVIDER (OPTIONAL)
17-133	45	15	~~C-2081-C/W/CB~~ POWER SHAFT
17-134	45	14	ROPE (OPTIONAL)
18-140	45	7	CHAIN GUARD
18-141	37	2	BALE SLIDE REAR
18-142	37	25	BALE SLIDE FRONT
18-143	37	12	JACK
18-145	45	22	BALE DIVIDER
18-146	45	26	BALE DIVIDER
18-147	49	11	DS-75 HOLDING PLATE
18-148	49	14	BOLTING PLATE
18-149	49	2	SELECTOR VALVE STRING
18-150	49	9	TENSION SPRING
18-151	49	17	HOSE HOLDER
18-152	49	13	HOSE CLAMP
18-153	49	10	CONNECTING LINK
18-153	48	1	CONNECTING LINK
18-154	48	2	HALF LINK
18-155	48	5	CHAIN TIGHTENER

C/W SPKT, CHAIN TIGHTENER

PART NO.	PGE.	ITM.	DESCRIPTION
19-160	33	12	LAURIER DECAL
19-161	39	1	DECAL (SAFETY PIN #8015)
19-161	41	1	DECAL (SAFETY PIN #8015)
19-162	43	5	DECAL (SAFETY SCISSOR #8012)
19-163	45	6	DECAL (SAFETY SHIELD #8017)
19-165	45	13	DECAL (KEEP AWAY #8014)
19-166	45	16	DECAL (THIS SHIELD #8013)
19-167	45	17	DECAL (DANGER A-7232-A)
20-170	35	1	15 X 8 X 6 6 HOLE WHEEL
20-170	33	1	15 X 8 X 6 6 HOLE WHEEL
20-171	33	3	9.5L X 15 8 PLY TIRE
20-171	35	3	9.5L X 15 8 PLY TIRE
20-172	35	15	TUBE
20-173	33	2	9/16 WHEEL BOLT
20-173	35	2	9/16 WHEEL BOLT
20-174	35	10	H618 6 HOLE HUB
20-175	35	9	OUTER CUP, RACE LM 48510
20-176	35	11	INNER CUP, RACE LM 25520
20-177	35	8	OUTER CONE 48548
20-178	35	12	INNER CONE 25580
20-179	35	13	SEAL SE-30
20-180	35	7	1" WASHER
20-181	35	6	CASTELATED NUT
20-182	35	4	3/16 X 2½ COTTER PIN
20-183	35	5	DUST CAP 18
20-184	35	14	S618 2 X 27 SPINDLE
21-180	33	10	LEFT SUBFRAME
21-181	33	11	RIGHT SUBFRAME
21-182	33	5	OSCILLATING AXLE POCKET
21-183	33	7	OSCILLATING AXLE
21-184	37	18	A-FRAME HITCH LEFT
21-185	37	7	A-FRAME HITCH RIGHT
21-186	37	16	HITCH CROSS PIECE
21-187	37	11	HITCH
21-188	37	23	3 X 6 CROSS MEMBER
21-189	37	24	4 X 6 CROSS MEMBER
21-190	37	6	CHANNEL CROSS MEMBER
21-191	37	1	RAIL OUTSIDE LEFT
21-192	37	3	RAIL INSIDE LEFT
21-193	37	4	RAIL INSIDE RIGHT
21-194	37	5	RAIL OUTSIDE RIGHT
21-195	39	9	FORK SLIDE LEFT
21-196	41	9	FORK SLIDE RIGHT
21-197	39	10	LEFT FORK
21-197	41	12	LEFT FORK

PART NO.	PGE.	ITM.	DESCRIPTION
21-198	39	12	RIGHT FORK
21-198	41	10	RIGHT FORK
21-199	43	7	SCISSOR
21-200	43	3	SIDE PLATE
21-201	39	16	FORK FRAME LEFT
21-202	41	16	FORK FRAME RIGHT
21-203	43	8	GEAR BOX MOUNT
21-204	43	9	STABILIZER
21-205	45	31	GUARD BRACKET
21-206	45	32	BEARING SHIM
22-210	43	2	1 X 8⅞ PIN
22-211	43	6	1 X 7⅞ PIN
22-213	39	15	1 X 6 PIN
22-213	41	15	1 X 6 PIN
22-214	39	4	1¼ X 7 PIN
22-214	41	4	1¼ X 7 PIN
22-215	37	19	1¼ X 5 PIN
22-216	39	8	⅝ X 3½ PIN
22-216	41	8	⅝ X 3½ PIN
22-217	39	7	2½ HAIRPIN CLIP
22-217	41	7	2½ HAIRPIN CLIP
22-218	39	2	¼ X 2½ COTTER PIN
22-218	41	2	¼ X 2½ COTTER PIN
22-218	43	1	¼ X 2½ COTTER PIN
22-218	37	20	¼ X 2½ COTTER PIN
22-219	33	6	⅛ NPT GREASE NIPPLE
22-219	37	21	⅛ NPT GREASE NIPPLE
23-300	39	3	5⁄16 X 3 BOLT
23-300	41	3	5⁄16 X 3 BOLT
23-301	49	15	5⁄16 X 9 BOLT
23-302	37	26	⅜ X 1 BOLT
23-303	37	27	½" CARRIAGE BOLT
23-304	33	4	½ X 1½ BOLT
23-304	45	20	½ X 1½ BOLT

PART NO.	PGE.	ITM.	DESCRIPTION
23-305	45	2	½ X 2¼ BOLT
23-306	37	17	⅝ X 4½ BOLT
23-307	39	11	⅝ X 1½ BOLT
23-307	41	11	⅝ X 1½ BOLT
23-308	45	19	⅝ X 5½ BOLT
23-309	37	10	¾ X 2 BOLT
23-310	39	6	5⁄16" NUT
23-310	49	4	5⁄16" NUT
23-310	41	6	5⁄16" NUT
23-311	37	22	⅜" LOCKNUT
23-311	45	9	⅜" LOCKNUT
23-312	33	9	½" NUT
23-312	45	23	½" NUT
23-312	49	12	½" NUT
23-313	48	4	⅝ NUT
23-313	45	21	⅝ NUT
23-313	39	19	⅝ NUT
23-313	41	19	⅝ NUT
23-314	37	8	¾" NUT
23-320	39	5	5⁄16" LOCKWASHER
23-320	41	5	5⁄16" LOCKWASHER
23-320	49	7	5⁄16" LOCKWASHER
23-321	33	8	½" LOCKWASHER
23-321	37	29	½" LOCKWASHER
23-321	45	24	½" LOCKWASHER
23-322	37	9	¾" LOCKWASHER
23-223	37	13	½" FLATWASHER
23-323	45	3	½" FLATWASHER
23-323	49	16	½" FLATWASHER
23-324	37	15	⅝" LOCKWASHER
23-324	39	18	⅝" LOCKWASHER
23-324	41	18	⅝" LOCKWASHER
23-325	45	30	½ X 2 BOLT
23-326	45	8	⅜ X 1½ BOLT

6 BALE CHAIN TIGHTNER 3L50