SM-23
SERVICE MANUAL

McCORMICK INTERNATIONAL
B-47
PICKUP BALER

The black tabs shown on the right hand side of this page line up with the corresponding tabs in the manual.

NOTE

Refer to the SUPPLEMENT AND CHANGE INDEX for a list of supplements, and to the end of the appropriate group for the latest instructions, before carrying out work on this equipment.

'INTERNATIONAL HARVESTER COMPANY'
OF GREAT BRITAIN LIMITED

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GROUP INDEX

GENERAL 1

SHIELDS, HITCH, DRIVE-SHAFTS AND FLYWHEEL 2

TRANSMISSION AND POWER TRAIN 3

PLUNGER AND BALE CHAMBER 4

PICK-UP, PICK-UP AUGER AND DRIVES 5

AXLE, CROSS CONVEYOR AND WHEELS 6

TYING AND TWISTING MECHANISM 7

TIMING 8

BALE LENGTH AND DENSITY CONTROLS 9

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2. SPECIFICATIONS

2a. GENERAL DATA

Width overall	8' 0"
Length overall	15' 10-1/2"
Height overall	4' 5"
Wheel track	7' 2"
Width of pickup	4' 4"
Weight	2, 969 lbs.
Output (Hay)	up to 15 tons per hour
Bales	
Cross section	14" x 18"
Length	up to 44"
Weight (36" bale - hay)	up to 60 lb.
Plunger speed - strokes per minute	
540 rpm P.T.O.	75
610 rpm P.T.O.	85
Flywheel	
Diameter	22"
Weight	222 lbs.
Clutch springs	
Free length	1-1/2"
Outer diameter	1-1/16"
Number of coils	5-3/4
Shear bolts	5/16 x 2" 18 N.F. B.S. Type T.
Transport speed (Maximum)	20 m.p.h.

Tyres - Implement	R.H. Wheel	L.H. Wheel
Size	5.50 - 16 4 ply	6.50 - 16 6 ply
Pressure	28 psi.	38 psi.

2b. TYING MECHANISM

1. KNOTTERS

Type	McCormick
Cord Holder disc timing (Needle gauging surface to edge of rear disc)	13/64" - 15/64"
Twine knife timing	9/16" - 5/8"
Clearance between twine knife and disc	5/16" - 3/8"

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1f. TORQUE DATA

1. Where no special torque figure is provided in SPECIFICATIONS, the following torque should be used on all nuts and capscrews providing that the threads are lubricated with engine oil or chassis grease.

BOLT SIZE	TORQUE (lbs. ft.)	
	MIN.	MAX.
1/4	9	10
5/16	19	21
3/8	33	37
7/16	53	60
1/2	80	90
9/16	115	130
5/8	160	180
3/4	290	320
7/8	420	470
1	630	710
1-1/8	850	950
1-1/4	1200	1350

NOTE: When re-using nuts and bolts in service, use the minimum torque figure.

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3. SERVICING

3a. GENERAL

1. Balers, like any automatic machine, have moving parts that must be correctly timed to one another for their protection and correct operation. Timing is of vital importance and must be maintained by periodic inspection and servicing, and the prompt replacement of worn parts.

2. Experience has shown that most difficulties with balers are caused by inattention to adjustments, poor operation or excessively worn parts.
The first inclination is to make adjustments without understanding what the difficulty really is, or whether in fact, there is a problem at all.

3. When called upon to handle a baler problem, the serviceman should talk to the operator long enough to find out what his complaint is. He should check the condition of the hay and then observe the operation of the machine.

4. If the machine is being operated correctly, check that the recommended output is not being exceeded.

5. Having satisfied himself that the baler is being correctly operated and that hay and output are satisfactory, the serviceman, if the problem still exists, should proceed as follows :

(a) Clean out the bale chamber.

(b) Make a thorough and systematic check of the complete machine and all functions using a check list similar to that shown on pages 6, 7, and 8.

It is essential that ALL possible causes be located and rectified.
DO NOT adjust timing until worn parts have been replaced. The replacement of parts may automatically correct the timing.

6. When checking for tying troubles, the following points should be checked in the order shown.

TWINE BALER

(a) Condition of twine knife, keeper blade and knotter hook.

(b) Proper threading, condition of twine guides and tension plates.

(c) Packer finger to plunger timing.

(d) Correct needle height.

(e) Needle clearance over the disc.

(f) Breastplate fingers and twine release spring.

(g) Disc timing.

WIRE BALER

(a) Condition of shear knife, twister hook and discs.

(b) Proper threading, condition of wire, and wire guides.

(c) Packer finger to plunger timing.

(d) Correct needle height.

(e) Needle clearance over disc.

(f) Disc timing.

(g) Stripper timing.

7. Check the above adjustments step by step then begin baling.
If difficulty still persists, ref to the fault tracing chart in the Op ator's Manual. AFTER deciding what ki of "miss" is occurring and until you have identified and can describe the r ss, you are not ready to look for a p ssible cause in the chart.

8. It should be noted that the INSPECTION paragraph in each s tion of this manual refers to inspecti of detail parts after the relevant a: embly has been dismantled.

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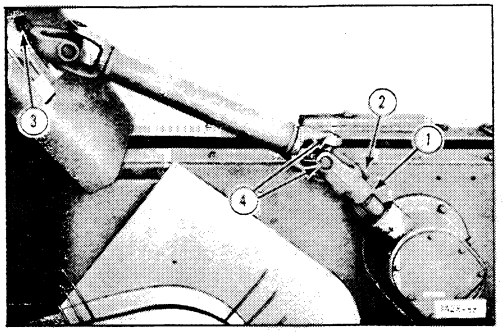


Fig. 4

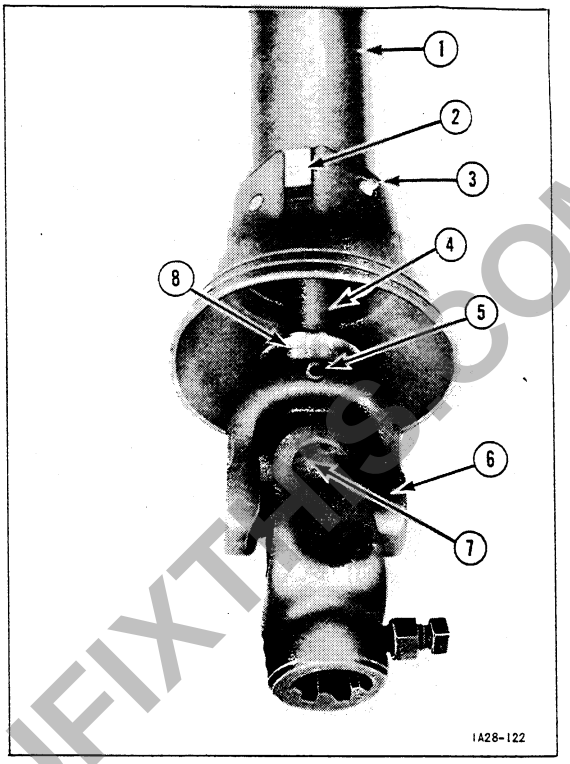


Fig. 5

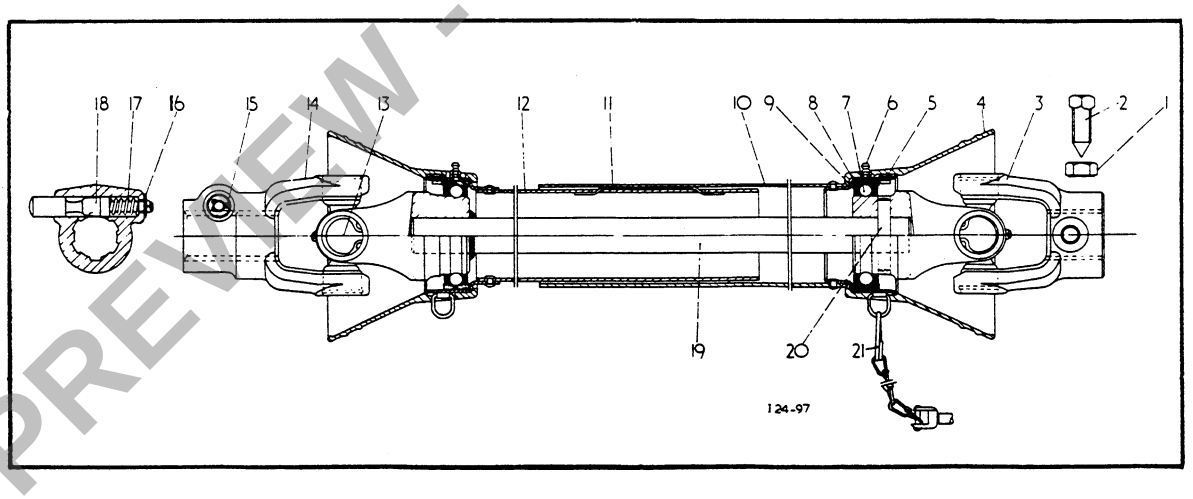


Fig. 6

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1. GENERAL

1a. INTRODUCTION

1. The instructions contained in this manual are for the information and guidance of servicemen responsible for the repair, overhaul and adjustment of the McCormick International B-47 Pickup Baler.

2. The manual is compiled to provide the serviceman with a fast and convenient reference to all information necessary for complete maintenance of the machine.

3. The manual is divided into groups, each of which covers a major unit of the machine.

4. All references to RIGHT, LEFT, FRONT and REAR are to be taken as applicable to a person standing BEHIND the machine and facing towards the hitch.

1b. ILLUSTRATION REFERENCES

1. Five types of illustration references will be found in the manual and these are explained by the following examples :

(a) (FIG.1) refers to illustration number 1.

(b) (1-1) This refers to the item marked by indicator number 1 in FIG.1.

(c) (1 & 2-1) This refers to the items marked by indicator number 1 and 2 in FIG.1.

(d) (1-4 & 2-6) This refers to the items marked by indicator number 1 in FIG.4 and by indicator number 2 in FIG.6.

(e) (1-4, GROUP 2) This refers to indicator number 1 in FIG.4 of Group 2.

1c. SERVICE PARTS

1. Only genuine I.H. service parts should be used. Years of experience in the design and manufacture of farm equipment have given International Harvester the ability to produce quality that will not be found in "will fit" parts.

2. When ordering service parts, always quote the machine serial number and refer to the parts catalogue for the particular machine.

1d. SERVICE TOOLS

1. Servicing and adjusting has been detailed using a minimum of special tools.

2. Where special tools are essential, such tools are quoted in the text and, listed, with the name of the supplier, in the SPECIFICATIONS section.

3. Where simple tools may be made in the workshop, fully dimensioned drawings have been provided.

1e. METRIC CONVERSIONS

1. The following table gives conversion factors for use in converting the British specifications to their metric equivalents :

To convert from	To	Multiply by
inches	centimetres	2.540
lbs.	Kg.	.4536
ft.-lbs.	Metre kg.	.01383

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McCORMICK INTERNATIONAL
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PICKUP BALER

TRANSMISSION AND POWER TRAIN.

3

GROUP 3

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1. PLUNGER & BALE CHAMBER

1a. GENERAL

1. The plunger and bale chamber are considered as a unit since they must maintain an accurate relationship to each other for efficient service.

Neglect in servicing and maintenance will seriously affect the performance and life of the machine.

2. THE BALE CHAMBER

(a) The bale chamber includes the bale chamber sides and bottom, the needle guards, the packer finger, strippers, the stationary hay knife, the plunger guides, the plunger stop and the bale tension device.

3. THE PLUNGER AND PITMAN

(a) The plunger is a welded assembly having steel guides and thrust runners to take the wear and side thrust imposed by the shearing of the hay.

(b) Figs.5, 9, and 10 show exploded views of the plunger and bale chamber.

1b. REMOVAL AND DISMANTLING

1. PLUNGER PITMAN

(a) Remove the two bolts (4-2 GROUP 3) and self locking nuts, drop the pitman from the bearing then replace the bolts to retain the bearing caps to the crank.

(b) Remove the four capscrews (2-2) then lift the pitman and support from the machine.

NOTE: When removing the pitman ONLY, it is not necessary to remove the plunger from the bale chamber.

(c) Drive out the roll pin (10-1) and the pitman pin (9-1).

(d) Press out the bushes (7-1).

2. CRANK BEARING

(a) Remove the two bolts (4-2 GROUP 3) and drop the pitman from the bearing.

(b) Lift out the bearing caps (3-1) and seals (1-1).

(c) Remove the liners (2-1).

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Fig.1 Exploded View of the Plunger Pitman, Bearings & Support

1. Bearing seal
2. Bearing liners
3. Bearing caps
4. Lubricator
5. Crank
6. Pitman tube
7. Bushes
8. Lubricator
9. Pin
10. Roll pin
11. Shim
12. Support
13. Retainer

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7. Dismantle the pulleys by removing the bolts (3-17) securing the sheaves (5-17) to the pulley hubs (8-17) and removing the spacing washers.

8. Remove the auger stops (3-16) from the side sheet.

2c. INSPECTION

1. Inspect the shafts and tubes for straightness.

2. Inspect the bushes for wear and for tightness in the tubes.

3. Inspect the pin holes in the shafts and pulley hubs for wear.

4. Dress out any bends or nicks in the auger flights ensuring that the edges are smooth.

2d. ASSEMBLY

1. Assemble the auger stops to the side sheet.

2. Press the bushes into the support tubes and place the washer on the auger shaft.

3. Slide the support into the machine and at the same time slide the auger shaft into the lower support tube. Enter the upper support tube into the knotter frame bore.

4. Install the support retainer.

5. Slide the drive shaft into the upper tube, install the washer and pinion then drive in the pin.

6. Assemble the pulley hubs to the auger and drive shafts installing sufficient washers (14 & 20-15) to align the pin holes and reduce end float to 1/32 inch in the drive shaft and 1/16 inch in the auger.
Install the pins and secure with the cotter pins.

7. Assemble the pulley sheaves using sufficient washers (4-17) to tension the V-belt. The belt tension is correct when the auger, turned by hand will just slip.

8. Replace the auger drive guard.

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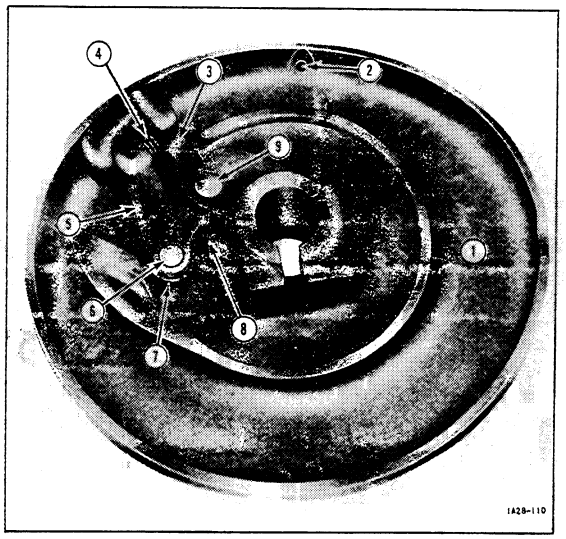


Fig.15

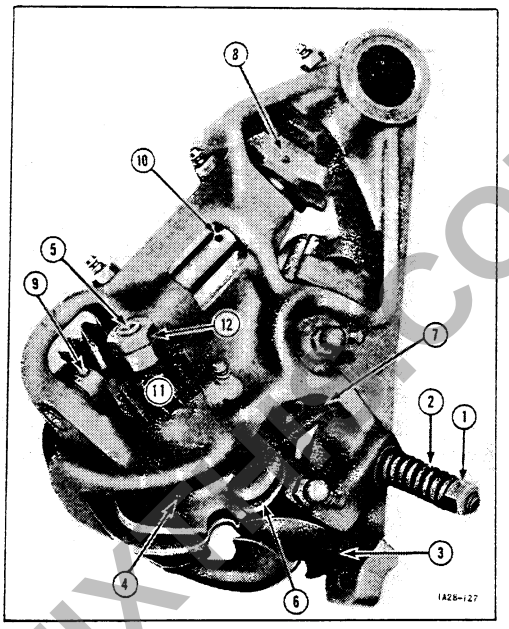


Fig.17

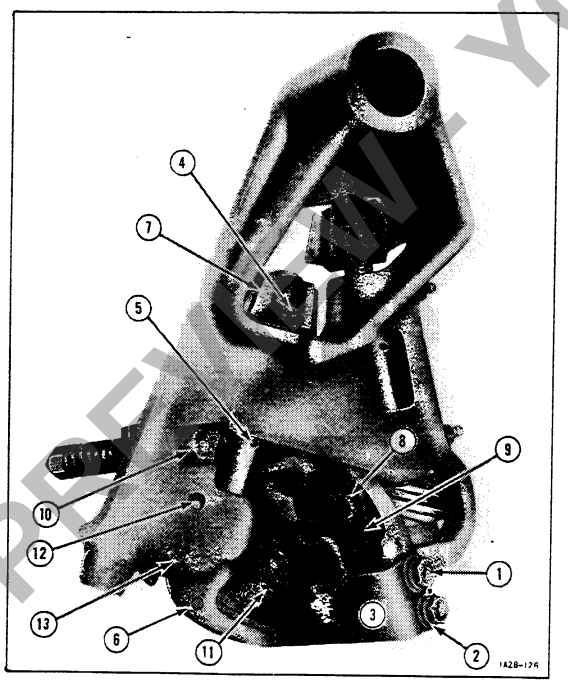


Fig.16

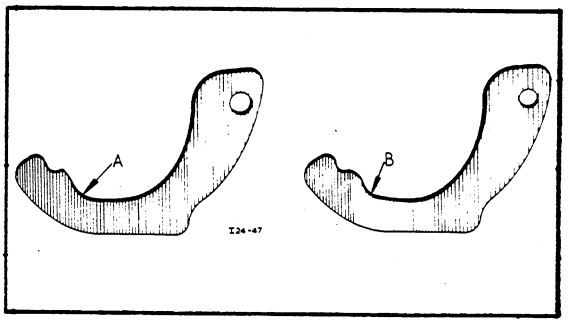


Fig.18

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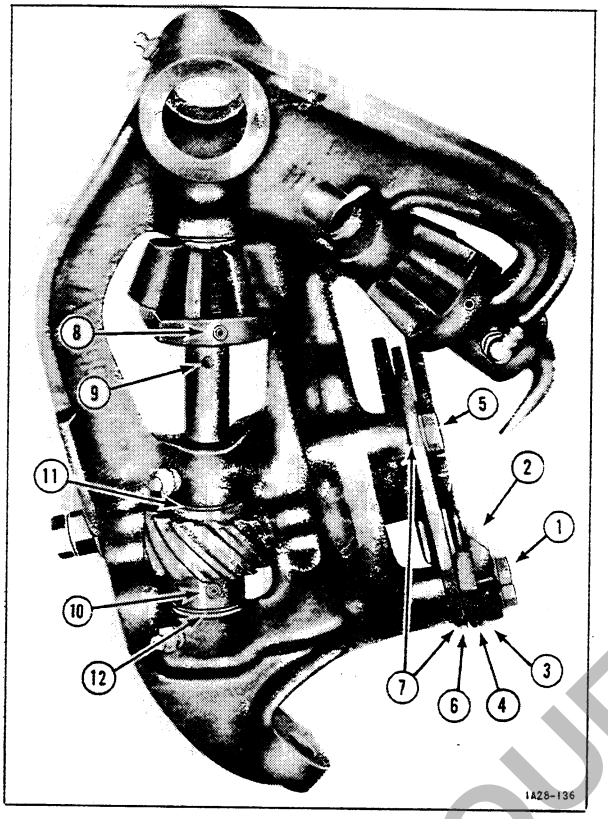


Fig. 46

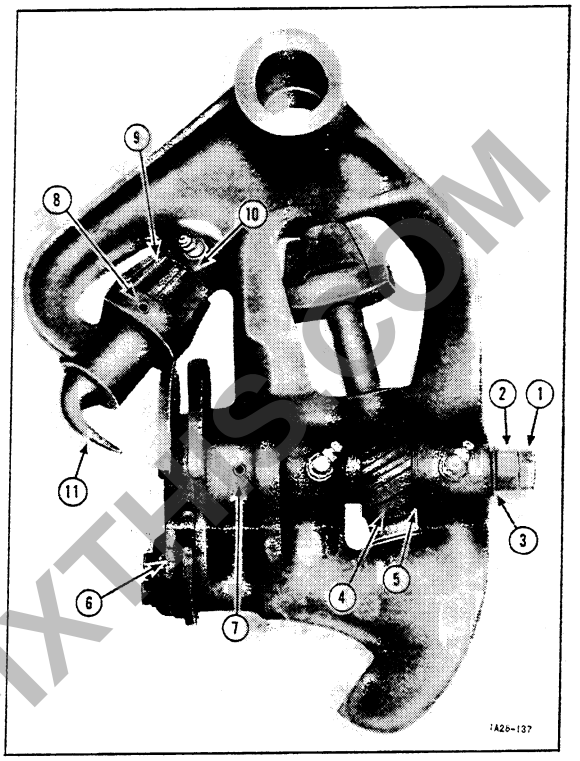


Fig. 47

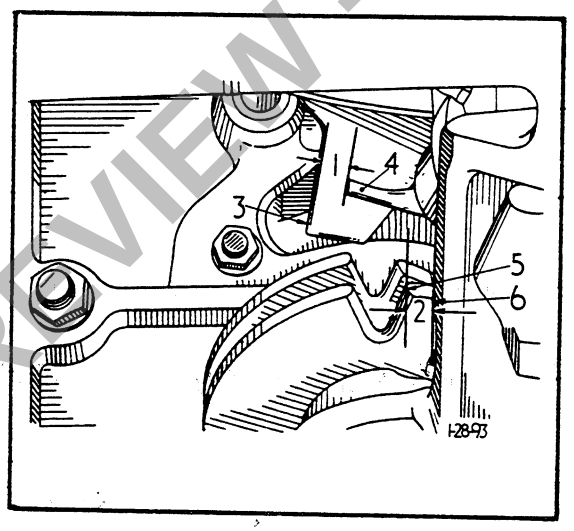


Fig. 48

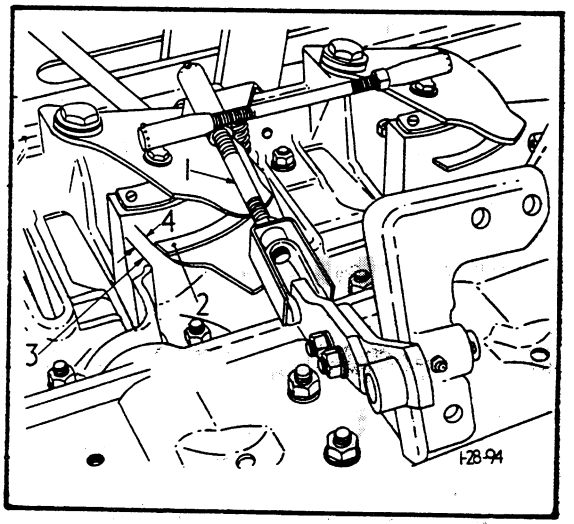


Fig 49

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