SERVICE MANUAL

INTERNATIONAL

425D
435D
AND
445D
PICKUP BALERS

SM - 56

INTERNATIONAL HARVESTER COMPANY
OF GREAT BRITAIN LIMITED

PO BOX 25 259 CITY ROAD LONDON EC1P 1AD

Download full manual at youfixthis.com

Y/4/80 CP.

GROUP INDEX

GENERAL 1
HITCH, PTO SHAFTS AND FLYWHEEL 2
GEARBOX 3
PACKER FINGERS AND CRANK 4
PLUNGER AND BALE CHAMBER 5
PICKUP, AUGER AND DRIVES 6
MAINFRAME, WHEELS AND SHEET METAL 7
TYING MECHANISM 8
ADJUSTMENTS 9

The above tabs line up with the corresponding tabs in the manual

PREVIEW: YOUFIXTHIS.COM

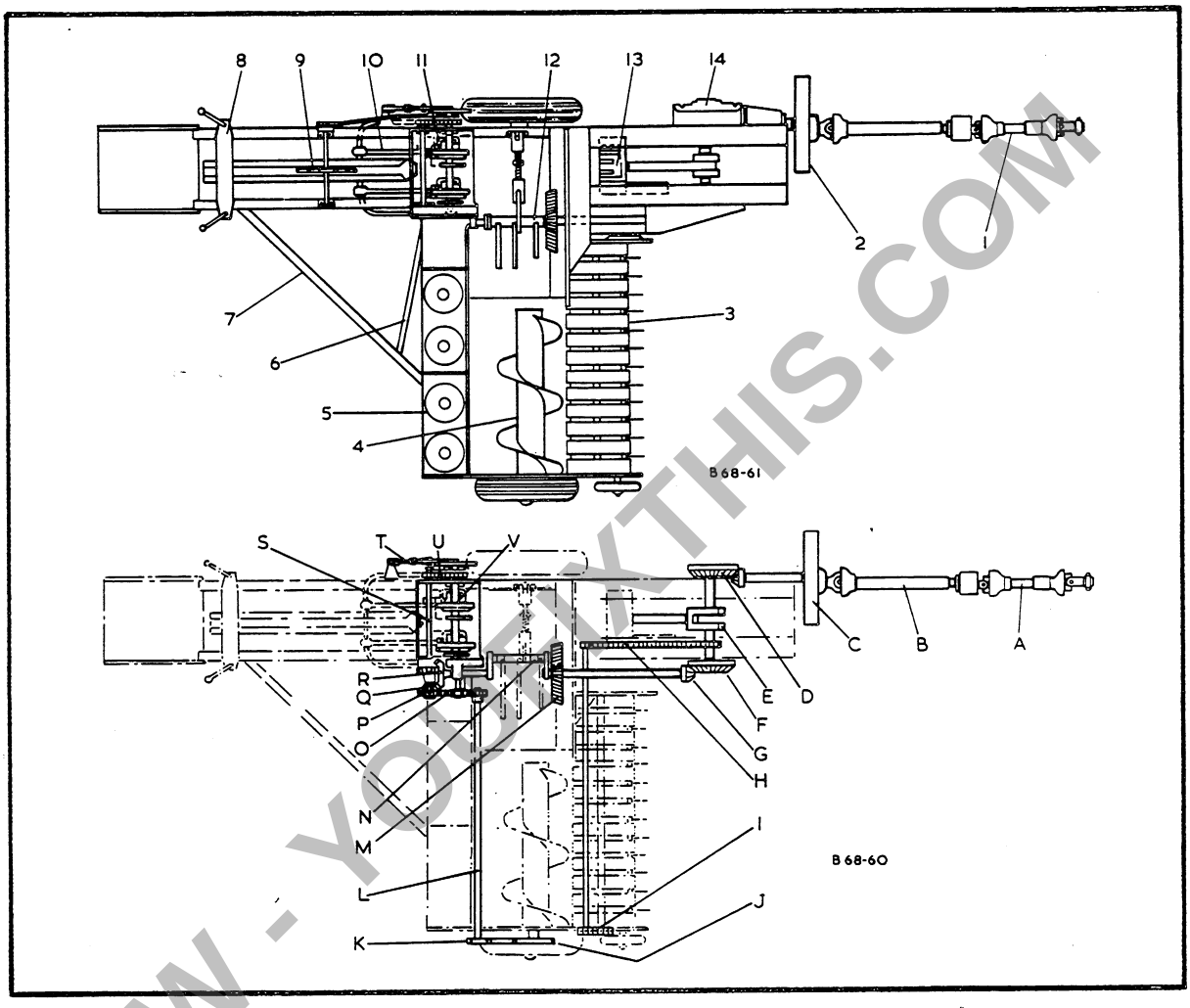
GROUP 1

GENERAL

	PAGE
GENERAL	1
SERVICE TOOLS	1
SERVICE PARTS	1
SERIAL NUMBER	1
ADJUSTMENTS	1
ILLUSTRATION REFERENCES	1
INSPECTION AND REPAIR	1
LUBRICATION	2
METRICATION	2
BOLT IDENTIFICATION	3
TORQUE DATA	3
PRINCIPLES OF BALER OPERATION	4
SPECIFICATIONS	6

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



1. Baler PTO shaft
2. Flywheel
3. Pickup
4. Auger
5. Twine chest
6. Bale chamber support
7. Diagonal brace
8. Bale tension device
9. Metering wheel
10. Needles
11. Knotters
12. Packer fingers
13. Plunger
14. Gear box

A. PTO front shaft (U.J. at both ends)
B. PTO rear shaft (U.J. one end only)
C. Main drive flywheel and slip clutch
D. Crown wheel and pinion housed in a gearbox
E. Plunger crankshaft
F. Packer drive lower gear
G. Packer drive lower pinion
H. Pickup main drive chain
I. Pickup slip clutch
J. Auger pulley
K. Auger drive belt
L. Auger drive shaft
M. Packer drive upper gear
N. Packer two piece crankshaft
O. Auger drive chain
P. Auger drive sprocket
Q. Knotter drive shaft pinion
R. Drive gear
S. Knotter drive shaft
T. Needle pitman
U. Knotter drive chain
V. Knotter shaft

Figure 1

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

2. BOLT IDENTIFICATION CHART

IH TYPE	BSS	TENSILE STRENGTH T/in^2	MANUFACTURERS MARKINGS					
5	S	50 - 55	BEES 50 S 55	NEWALL HITENSILE "S"	SPNS	NEWTON S	SPARTS S	TWLS
	T	55 - 65	BEES 55 T 65	NEWALLOY T or NEWALL HITENSILE T	SPNT	NEWTON T	SPARTS T	TWLT
8	V	65 - 75	BEES 65 V 75	NEWALLOY "V"	SPNV	NEWTON V	SPARTS V	TWLV

T70-128

3. TORQUE DATA

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

BOLT SIZE (in)	TYPE 5				TYPE 8			
	MIN.		MAX.		MIN.		MAX.	
	Nm	lbft	Nm	lbft	Nm	lbft	Nm	lbft
1/4	12	9	14	10	16	12	19	14
5/16	26	19	28	21	37	27	41	30
3/8	45	33	50	37	61	45	68	50
7/16	72	53	81	60	102	75	115	85
1/2	108	80	122	90	156	115	176	130
9/16	156	115	176	130	224	165	251	185
5/8	217	160	244	180	298	220	339	250
3/4	393	290	434	320	542	400	610	450
7/8	569	420	637	470	881	650	990	730
1	854	630	963	710	1315	970	1478	1090
1-1/8	1152	850	1288	950	1871	1380	2101	1550
1-1/4	1627	1200	1830	1350	2630	1940	2956	2180

T70-127b

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

(b) Remove the half guards from both inner and outer tubes.

(c) Drive out the roll pins and slide the universal joint assemblies off the tubes.

4c ASSEMBLY

1. PTO Rear Shaft

(a) Press the bearing (10-12) into the centre bearing housing (12-12) and secure with the circlip (11-12).

(b) Press the centre bearing assembly onto the splined end of the rear shaft ensuring that the circlip faces the end of the shaft.

(c) Slide the half guards onto the front tube (6-12) then slide the rear half of the shaft (9-12) into the front tube.

2. PTO Front Shaft

(a) Slide the inner half guard then the outer half guard (1-12) onto the shaft.

(b) Slide the universal joint (3-12) onto the front shaft aligning the roll pin holes then drive in the roll pin.

3. Two Joint Shaft (425D)

(a) Slide the half guards onto the inner and outer tubes.

(b) Slide the universal joints onto the tubes aligning the roll pin holes then drive in the roll pins.

(c) Slide the front half of the shaft into the rear tube.

4d INSTALLATION

1. PTO Rear Shaft

(a) Position the shaft (3-10) on the flywheel and secure the bolts (2-10) tightened to 46 to 51 Nm (34 to 38 lbft).

(b) Slide the rear half guard (1-12) into position on the shaft then fully push in the bearing tags (2-11) ensuring the locking tabs (1-11) are behind the tags. Secure the outer shield with the screws (3-9).

(c) Install the front shaft referring to sub-para 2.

2. PTO Front Shaft

(a) Locate the centre bearing shield on the shaft.

(b) Slide the front shaft onto the rear shaft ensuring that the setscrew holes are in the same plane. Align the setscrew holes, apply loctite 241 to the threads then install the setscrew (5-12) and secure with the locknut (4-12).

(c) Lift the centre bearing into position, install the shield and secure with the bolts (1 & 2-9).

3. Two Joint Shaft (425D)

(a) Position the shaft (1-13) on the flywheel and secure with the bolts (2-10) tightened to 46 to 51 Nm (34 to 38 lbft).

(b) Slide the half guard into position on the shaft then fully push in the bearing tags ensuring the locking tabs are behind the tags.

(c) Secure the flywheel safety shield with the screws (3-13).

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

4. PACKER FINGERS AND CRANK

Packer drive shaft		
Backlash	mm(in)	0.25 to 1.8(0.010 to 0.070)
Lower bearing dowel bolt torque	Nm(lbft)	41 to 51 (33 to 37)
Upper pinion bolt torque	Nm(lbft)	71 to 81 (53 to 60)
Relief Rod		
Relief spring (Not 425D)		
Free length	mm(in)	142.7 (5.62)
Test length	mm(in)	111.1 (4.375)
Test load	kg(lb)	317.5 (700)
Relief rod length	mm(in)	533 to 559 (21 to 22)
Packer Fingers		
Packer spring (Not 425D)		
Free length	mm(in)	224 (8.82)
Test length	mm(in)	385.5 (15.18)
Test load	kg(lb)	33.1 (73)
Shear bolt torque	Nm(lbft)	22 to 24 (16 to 18)
Knotter drive gear backlash	mm(in)	0.25 to 1.8(0.010 to 0.070)

5. PLUNGER AND BALE CHAMBER

Plunger top clearance from centre wood block-must not exceed	mm(in)	3.0 (0.125)
Plunger runner to lower wearing pad clearance	mm(in)	0.to 1.5 (0.060)
Knife to knife clearance	mm(in)	0 to 0.76 (0 to 0.030)
Knives parallel within	mm(in)	0.5 (0.020)
Knife guide to plunger knife clearance	mm(in)	0.25 to 0.80 (0.010 to 0.030)
Upper wearing pad to knife guide clearance	mm(in)	0.25 to 1.5 (0.010 to 0.060)
Right upper block to bale chamber clearance at shear point	mm(in)	0.13 to 1.14 (0.005 to 0.045)
Left upper guide angle clearance over rollers (not 425 D)	mm(in)	0.25 to 0.76 (0.010 to 0.030)
Trip arm rack to spline clearance	mm(in)	1.5 to 3.0 (0.063 to 0.125)
Pitman rear bearing bolt torque	Nm(lbft)	115 to 122 (85 to 90)
Plunger roller bolts torque	Nm(lbft)	115 to 122 (85 to 90)

6. PICKUP AND AUGER

Pickup		
Main drive chain tension	mm(in)	19 to 25 (0.75 to 1.0)
Pickup drive chain tension	mm(in)	9.5 to 12.5 (0.375 to 0.5)
Effective weight of pickup at its lowest position	kg(lb)	18 to 23 (40 to 50)
Slip clutch hub to washer gap	mm(in)	9 (0.35)
Slip clutch torque	Nm(lbft)	149 to 162 (110 to 120)
Auger		
Speed at PTO drive shaft speed of 540 rev/min	rev/min	188
Belt deflection with 11 kg (25lb) load	mm(in)	14 (0.56)

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Wherever possible, bearings must be installed so that manufacturers markings are facing outward.

(b) PINS AND BUSHES

Inspect for damage, scoring and pitting, check with mating parts for wear. Change as necessary.

(c) CLEVISES AND PINS

Check with mating parts for wear.

(d) GEARS AND SPLINES

Check for cracks, pitting, burrs, broken or missing teeth. Check for excessive wear with mating parts. Dress off burrs from gears and splines with a fine carborundum stone taking care to remove only the burr, DO NOT interfere with the tooth or spline profile.

CHANGE all parts which show signs of damage or excessive wear.

(e) SEALERS

Always use new gaskets and oil seals during assembly. Be careful not to damage the seal or gasket during installation.

Pack lip type seals with grease and use sleeves or tape wherever a seal has to be passed over splines or threads. Felt dust seals should be soaked in oil before assembly.

All studs and bolts which are assembled entering oil chambers must be coated with thread sealing compound unless otherwise stated.

(f) WELDS

Check all welded assemblies for cracks, twisting and misalignment. Information concerning the use of special welding rods or welding procedure is detailed, where relevant, in the appropriate section of the GROUP.

(g) LUBRICATION FITTINGS

Check for damaged or missing fittings. Check that grease and oil galleries are clear.

1h. LUBRICATION

When assembling any part, always coat all wearing surfaces with the lubricant specified in the Operator's Manual, except for such items as taper pins etc., the surfaces of which should be clean and dry. Use sufficient quantities of lubricant to prevent any danger of seizing or excessive wear when the assembly is first operated.

1i. METRICATION

The metric units in this manual are the ones most likely to be found on existing equipment such as torque wrenches, pressure gauges etc. which are often dual marked.

Other units may be encountered such as force in Newtons (N), or torque in Newton metres (Nm). To assist the serviceman the following conversions are provided.

1 N - 0.10197 kg - 0.2248 lb
1 Nm- 0.10197 kgm- 0.7376 lbft

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. GEAR BOX

2a. PRELIMINARY INSPECTION

(a) Drain the oil, remove the end cover, refer to Figure 2 and inspect all of the bevel gear teeth for correct tooth contact pattern referring to Figure 19.

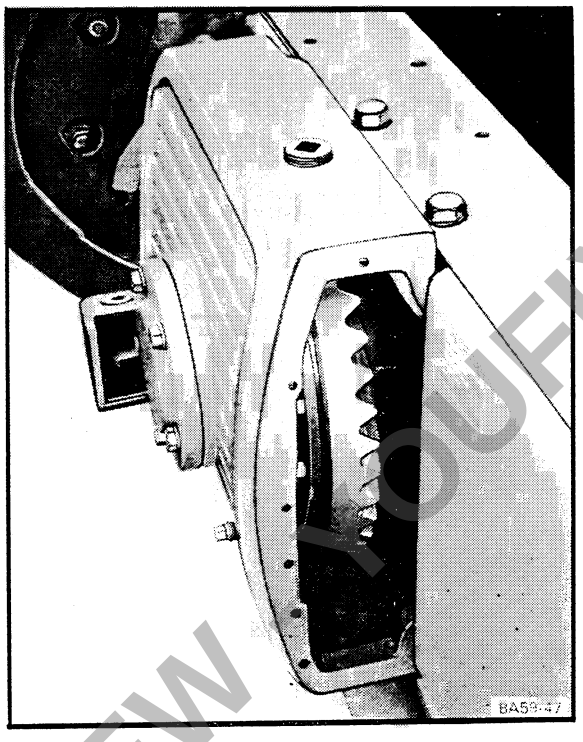


Figure 2

(b) Check the backlash, referring to para.2e, sub-para.4.

NOTE! Both the pinion shaft and crankshaft must have the specified preload in order to obtain a satisfactory backlash reading. If the flywheel has been removed the flywheel hub and thrust washer must be installed and the nut correctly torqued.

2b. REMOVAL

(a) Turn the flywheel in the normal direction of rotation until the

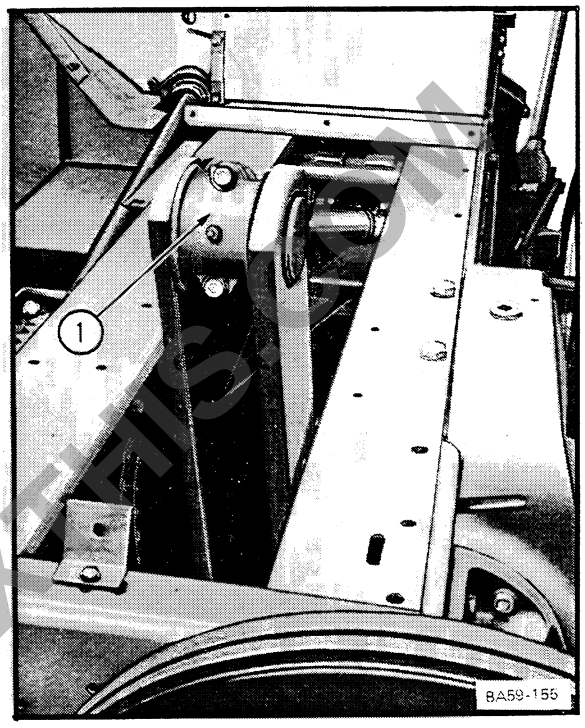


Figure 3

pitman bearing (1-3) can be removed from the crank. Push the plunger clear, but ensure the plunger face is forward of the front packer finger.

(b) Remove the flywheel referring to GROUP 2.

(c) Remove the packer drive shield.

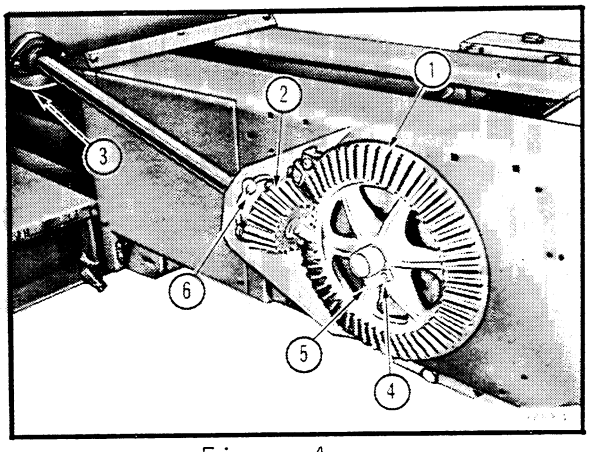
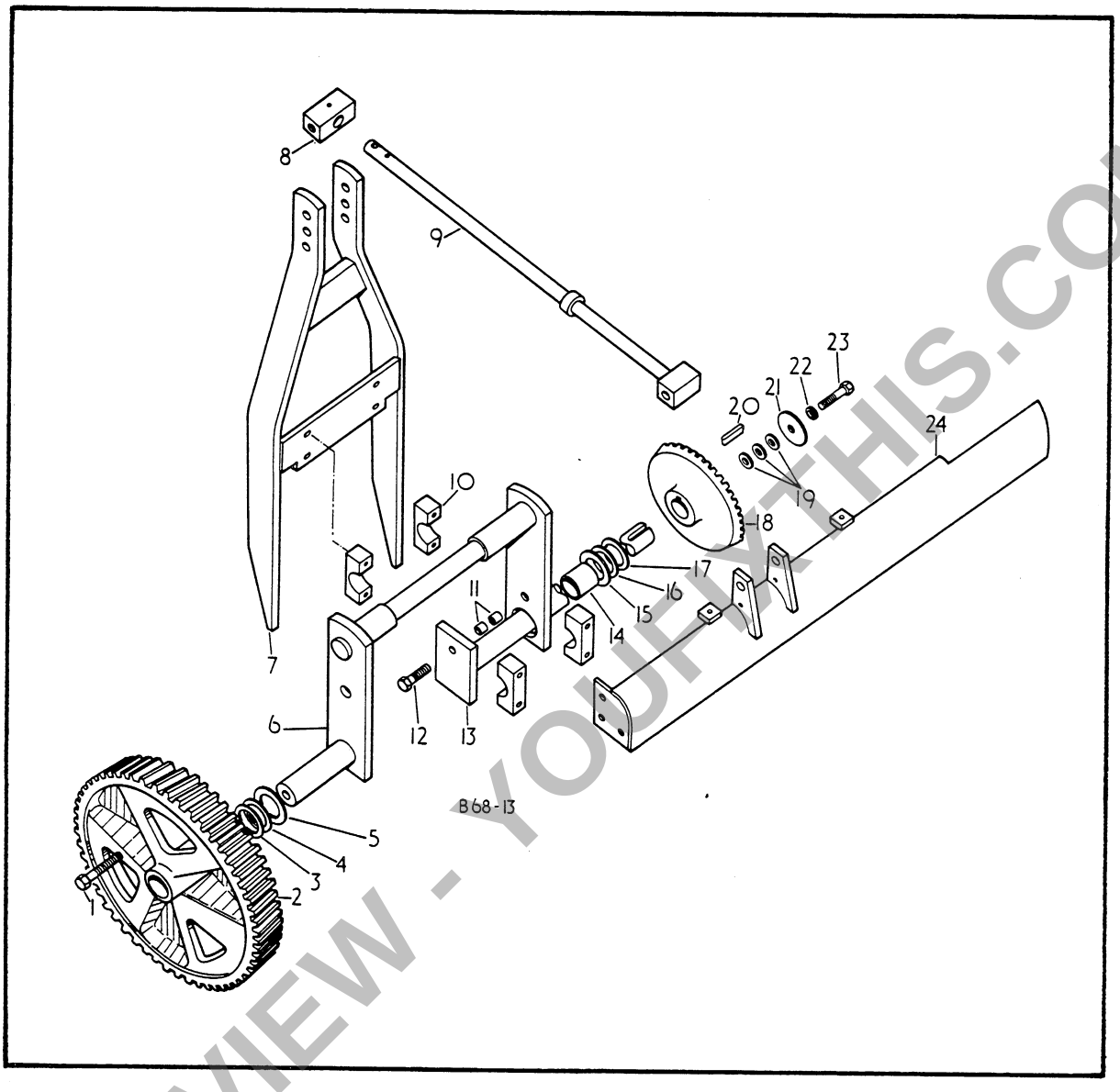


Figure 4

PREVIEW YOUFIXTHIS.COM
Download full manual at youfixthis.com



Packer Fingers and Crank 425D

1. Bolt
2. Packer drive upper gear
3. Washer
4. Washer
5. Washer
6. Front crankshaft assembly
7. Packer finger assembly
8. Pivot
9. Relief rod
10. Bearing
11. Bushing
12. Shear bolt
13. Rear packer crankshaft
14. Spacer
15. Thrust washer
16. Washer
17. Washer
18. Knotter drive shaft gear
19. Washer
20. Key
21. Washer
22. Washer
23. Bolt
24. Support assembly

Figure 23

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

the standard headed pin and cotter pin. Install the inner hub (4-18), inner clutch facing, sprocket (11-18), outer facing and outer hub (6-18) onto the shaft.

(b) Check that there is a clearance between the pin (7-18) and the bottom of the slot in the outer hub, if necessary remove a washer (2-18) and install the standard headed pin and cotter pin.

(c) Install the springs (10-18), washer (9-18) and nut (8-18). Tighten the nut until the gap (A-18) between the washer and hub face is 9 mm (0.35 in). This should equal a clutch slip torque of 149 to 162 Nm (110 to 120 lbft).

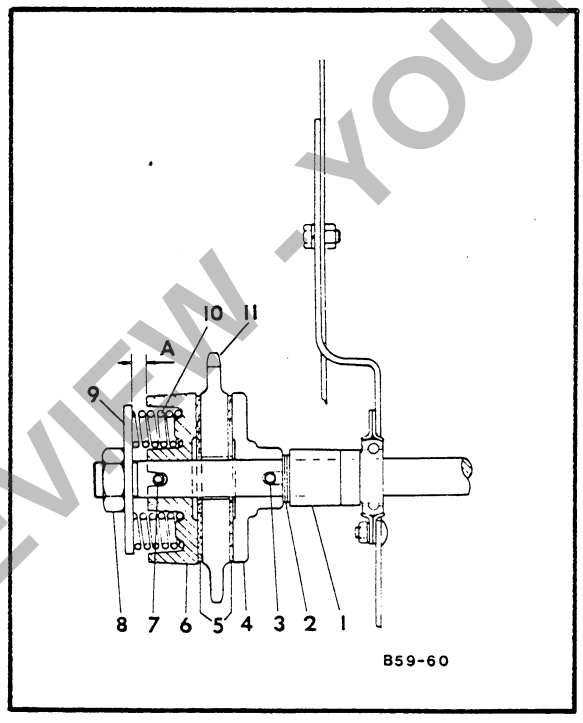


Figure 18

(d) Position the chain on the sprocket and secure with the connecting link. Check the clutch torque referring to para.2e and install the shield (2-2).

5. Tooth Bars

(a) Secure the teeth to the tooth bar, if these were removed, referring to sub-para.6.

(b) Install the tooth bar (2-8) in the pickup cylinder engaging the left side in the pickup cylinder end plate (4-16).

(c) Secure the right side of the tooth bar to the tooth bar holder with the bolts and nuts (1-8).

(d) Turn the pickup until a tooth bar is in line with the hole, position the bushing (3-16) on the tooth bar then select sufficient washers (2-16) to take up the end float in the tooth bars and secure with the cotter pin.

(e) Install the stripper loops, referring to sub-para.7.

6. Teeth

(a) Secure the spring teeth (9-16) with the bolt (3-7), internal/external tooth lockwasher and nut to the tooth bar.

(b) Install the stripper loops, referring to sub-para.7.

7. Stripper Loops

Slide the stripper loops (7-16) into position, engaging the stripper loop slots over the bolt heads, then tighten the bolts (1-7).

8. Rear Drive Assembly

(a) Position the bearings and flanges on the bracket but do not tighten the nuts so that the

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

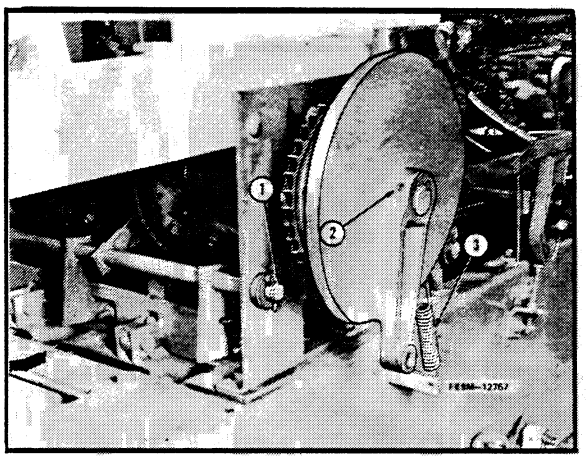


Figure 16

(f) Remove the knotter shaft sprocket (1-17) and washers (2-17). Disconnect the trip rod spring and remove the bolt and washer from the bale length metering mechanism.

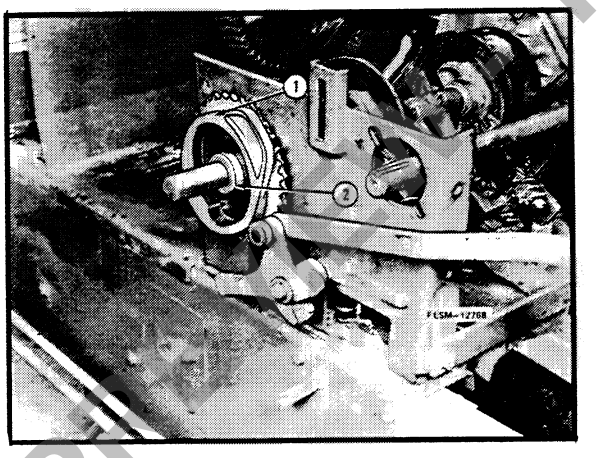


Figure 17

(g) Disconnect the trip rod from the trip arm (2-18). Remove the bolts from the knotter shaft bearing. Remove the securing bolts and remove the knotter support frame (1-18) and trip arm as an assembly. (Note the number of support fillers).

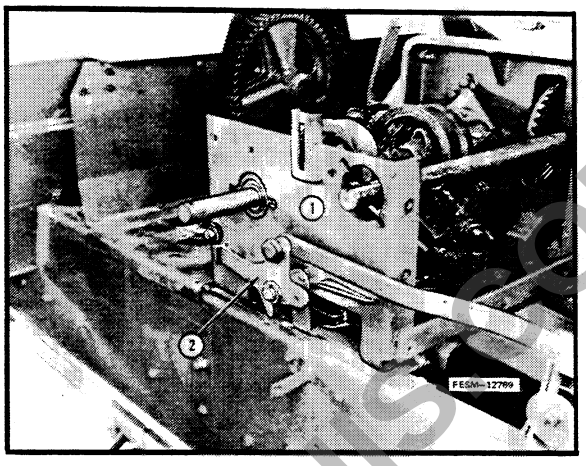


Figure 18

(h) Remove the knotter anchor bolts and slide the bearing assembly (1-19), adjustable collar (2-19) and knotter assembly (3-19) off the shaft. Remove the roll pin from the R.H. end of the knotter shaft and remove the shaft with the cam plates and remaining knotter assembly.

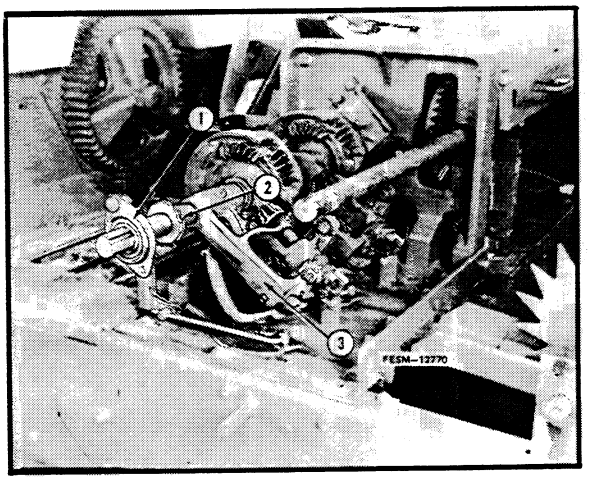


Figure 19

(i) Remove the cams and knotter assembly from the shaft as needed for servicing.

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 12 of 152 pages

The full manual includes:

- All 152 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

International 425D, 435D, 445D, 425D Pickup Balers, 435D Pickup Balers, 445D Pickup Balers, INTERNATIONAL 445, 4250 Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual