354, 364 and 2300A Tractor Chassis

Includes Rev.1

Service Manual

GSS1442

Reprinted

CASE

Due to a continuous program of research and development, some procedures, specifications and parts may be altered in a constant effort to improve our products.

When changes and improvements are made in our products, periodic revisions may be made to this manual to keep it up-to-date. It is suggested that customers contact their dealer for information on the latest revision.

CHASSIS
354, 364 & 2300A
Tractors

GSS-1442 W/Revision 1
July, 1974

SERVICE MANUAL

INTERNATIONAL

354
AND
2300A
TRACTORS

GROUP INDEX

GROUP 1

GENERAL

1. INTRODUCTION

1a. GENERAL

The instructions contained in this manual are for the information and guidance of those responsible for the overhaul and repair of the International 354 and 2300 Diesel and Petrol Tractors.

Throughout this manual the terms LEFT, RIGHT, FRONT and REAR are to be taken as applicable to a person seated in the drivers seat and facing the radiator.

1b. SERVICE TOOLS

International machines are so designed that few special tools are required. However, when the use of inexpensive special service equipment will facilitate work, such equipment is mentioned in the Specifications for the relevant group. Where this equipment can easily be made in the workshop, dimensional drawings have been provided.

1c. SERVICE PARTS

I.H. machines deserve genuine I.H. service parts. The best material obtainable and experience gained through many years of manufacturing, enable the International Harvester Company to produce quality that will not be found in imitation or 'just as good' service parts. No one can afford to guarantee a repair that has not been serviced with genuine I.H. parts. For the correct service parts to be used, always refer to the Parts Catalogue.

1d. SERIAL NUMBERS

Serial numbers can be readily located. The engine serial number is stamped on the right side of the crankcase and the chassis serial number is stamped on a plate attached to the right side of the clutch housing.

1e. SERVICING

Before removing a unit from the machine the serviceman should, if possible, operate the machine himself to locate the fault and check external factors for evidence which may indicate the cause of the fault.

Before dismantling a unit the outside must be thoroughly cleaned. If steam cleaning is used, ensure that all ports are securely capped.

On removal and after assembly, all ports should be capped. Do not uncover the ports until the unit is installed on the machine and the connections are to be made.

1f. ENGINE

Instructions for the removal and installation of the engine are covered in this manual, for detailed servicing information refer to the 'BD-144, BD-154 Series DIESEL ENGINE and BC-144 Series PETROL ENGINE SERVICE MANUAL, SM-12A'.

1g. DIESEL FUEL INJECTION EQUIPMENT

Instructions for the removal and installation of the diesel fuel injection equipment are covered in this manual, for detailed servicing information refer to the 'FUEL INJECTION SERVICE MANUAL, SM-11'.

1h. ADJUSTMENTS

Where adjustments are necessary the GROUP will contain the relevant information. Reference to these paragraphs before commencing to dismantle units may prevent unnecessary work being carried out.

1i. ILLUSTRATION REFERENCES

Four types of illustration reference may be found in this manual and these are explained by the following examples:-

(a) (1-4) This refers to the item marked by indicator number 1 in Fig.4 of the GROUP in which the reference appears.

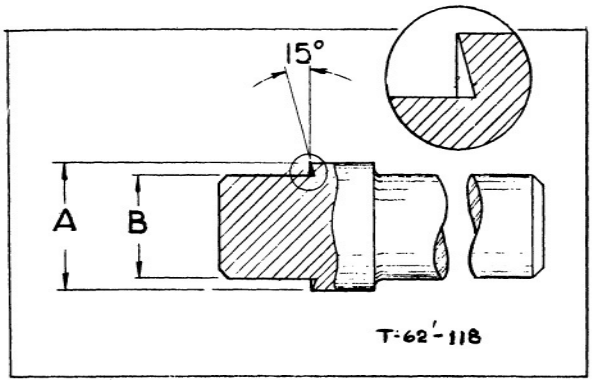
(b) (1 & 2-4) This refers to items marked by indicators number 1 and 2 in Fig.4 of the GROUP in which the reference appears.

(c) (1-4 & 2-6) This refers to the item marked by indicator number 1 in Fig.4 and indicator number 2 in Fig.6 of the GROUP in which the reference appears.

(d) (1-4 GROUP 3) This is used when reference is made to a figure in another GROUP. A group number may be used in conjunction with (a), (b) or (c) to show the indicator number, illustration number and GROUP in which the illustration appears.

1j INSPECTION AND REPAIR

The following notes should be used as a general guide to inspection and repair. Where special procedure is necessary for a component or assembly, full details will be found in the relevant paragraph of the GROUP.



A = 1.5 mm (0.062 in) less than outer diameter

B = 0.07 mm (0.003 in) less than inner bore

(a) BEARINGS

Inspect for evidence of overheating, cracks, scores, pitting and general wear. Change if necessary. Soak in oil, wrap or cover with greaseproof paper until required for assembly.

When installing needle bearings, have the manufacturer's markings outward and use a dolly made to the dimensions in the diagram.

(b) PINS AND BUSHES

Inspect for damage, scoring and pitting, check with mating part for wear, change if necessary.

(c) CLEVIS AND CLEVIS PINS

Check with mating part 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, care must be taken 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.

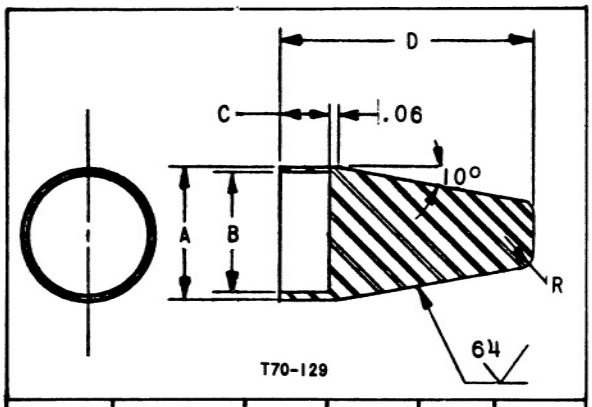
(e) GASKETS AND SEALS

ALWAYS use new gaskets and oil seals during assembly. Be extremely 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.

(f) 'O' RINGS

When installing 'O' rings over the threads of standard pipe fittings, a tool made to the dimensions in the diagram MUST be used. Where special fittings are encountered, the dimensions should be varied to suit. Use sleeves or tape when installing 'O' rings over splines or serrations.



PIPE SIZE	THREAD SIZE & T.P.I.	A±.005	B±.005	C±.010	D±.030
1/4	7/16-20	.523	.443	.280	1.000
5/16	1/2-20	.585	.506	.280	1.000
3/8	9/16-18	.648	.568	.300	1.500
1/2	3/4-16	.835	.756	.330	1.500
5/8	7/8-14	.960	.881	.380	1.500
3/4	1-1/16-12	1.147	1.068	.465	2.500
7/8	1-3/16-12	1.273	1.193	.465	2.500
1	1-5/16-12	1.397	1.318	.465	2.500
1-1/4	1-5/8-12	1.711	1.631	.465	2.500

(g) 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.

(h) FUEL TANKS

Check for leaks and corrosion.

(i) FUEL, OIL AND COOLANT PIPES AND HOSES

Check unions for leaks, stripped threads or other faults. Check pipes for cracks or chafing, hoses for chafing, twisting, perishing or other damage.

(j) LUBRICATION FITTINGS

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

(k) 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 surface 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.

FAILURE TO PROVIDE 'STARTING LUBRICATION' MAY RESULT IN SERIOUS DAMAGE.

1k. METRIC CONVERSION

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

To convert from	To	Multiply by
inches	cm	2.540
lb	kg	0.4536
ounces	kg	0.02835
lb ft	kgm	0.1383
lb in	kgm	0.0115
lb/in^2	kg/cm^2	0.07031
Imp gal	litres	4.5454
Imp pints	litres	0.5682
miles	km	1.6

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. STANDARD TORQUE DATA

Where no special torque data is specified, the following torques should be applied to all nuts and bolts providing that the threads are lubricated with engine oil or chassis lubricant. Apply the minimum torque figure to bolts that have previously been used.

BOLT SIZE (in)	TYPE 5				TYPE 8			
	MIN.		MAX.		MIN.		MAX.	
	kgm	lbft	kgm	lbft	kgm	lbft	kgm	lbft
1/4	1.24	9	1.26	10	1.66	12	1.93	14
5/16	2.62	19	2.90	21	3.73	27	4.14	30
3/8	4.56	33	5.11	37	6.22	45	6.91	50
7/16	7.32	53	8.30	60	10.37	75	11.75	85
1/2	11.06	80	12.44	90	15.90	115	17.97	130
9/16	15.90	115	17.97	130	22.81	165	25.58	185
5/8	22.12	160	24.89	180	30.42	220	34.56	250
3/4	40.09	290	44.24	320	55.30	400	62.21	450
7/8	58.07	420	64.98	470	89.87	650	100.93	730
1	87.10	630	98.16	710	134.11	970	150.70	1090
1-1/8	117.52	850	131.34	950	190.79	1380	214.30	1550
1-1/4	165.91	1200	186.64	1350	268.21	1940	301.40	2180

T70-127A

4. SPECIFICATIONS

1. The following specifications are listed in GROUP order.

The data given is applicable to new parts and assemblies, therefore during the overhaul and testing of worn components personal initiative must be exercised to determine whether or not a component is suitable for re-use. It is obviously uneconomical to return worn parts to service with an expectation of life which may involve labour costs at an early date.