

**RANSOMES®**

A Textron Company

Assembly, Safety and operation manual

RANSOMES Gang Mowers

Series: Sport Cutter Mk11, Magna Mk13

Product codes: LJBA003

LJBA004

LJBA005

LJBA006

LJBA007

LJBA008

LJBA011

LJBA015

LJBA016

LJBA017

LJBA018

LJBA019

LJBA020

LJBA023



WARNING: If incorrectly used this machine can cause severe injury. Those who use and maintain this machine should be trained in its proper use, warned of its dangers and should read the entire manual before attempting to set up, operate, adjust or service the machine.



English

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2.1 IMPORTANT

IMPORTANT: This is a precision machine and the service obtained from it depends on the way it is operated and maintained.

This SAFETY AND OPERATORS MANUAL should be regarded as part of the machine. Suppliers of both new and second-hand machines are advised to retain documentary evidence that this manual was provided with the machine.

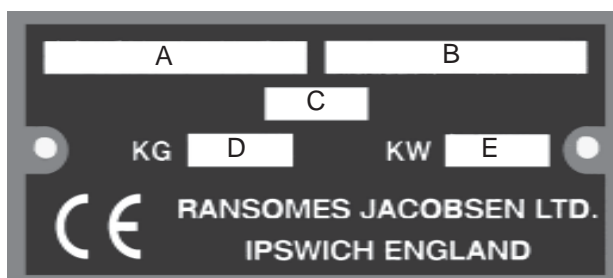
This machine is designed solely for use in customary grass cutting operations. Use in any other way is considered as contrary to the intended use. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer, also constitute essential elements of the intended use.

Before attempting to operate this machine, **ALL** operators **MUST** read through this manual and make themselves thoroughly conversant with Safety Instructions, controls, lubrication and maintenance.

Accident prevention regulations, all other generally recognized regulations on safety and occupational medicine, and all road traffic regulations shall be observed at all times.

Any arbitrary modifications carried out on this machine may relieve the manufacturer of liability for any resulting damage or injury.

2.2 PRODUCT IDENTIFICATION



- A Machine Name
- B Serial Number
- C Year of Manufacture
- D Machine Weight
- E Engine Power



This safety symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury, carefully read the message that follows, and inform other operators.

3.1 OPERATING INSTRUCTIONS

- Ensure that the instructions in this book are read and fully understood.
- No person should be allowed to operate this machine unless they are fully acquainted with all the controls and the safety procedures.
- Never allow children or people unfamiliar with these instructions to use this machine. Local regulations may restrict the age of the operator.

3.2 SAFETY SIGNS

- It is essential all safety labels are kept legible, if they are missing or illegible they must be replaced. If any part of the machine is replaced and it originally carried a safety label, a new label must be affixed to the replacement part. New safety labels are obtainable from Ransomes dealers.

3.3 STARTING THE ENGINE

- Before starting the engine check that the brakes are applied, drives are in neutral, guards are in position and intact, and bystanders are clear of the machine.
- Do not run the engine in a building without adequate ventilation.

3.4 DRIVING THE MACHINE

- Before moving the machine, check to ensure that all parts are in good working order, paying particular attention to brakes, tyres, steering and the security of cutting blades.
- Replace faulty silencers, mow only in daylight or good artificial light
- Always observe the Highway Code both on and off the roads. Keep alert and aware at all times. Watch out for traffic when crossing or near roadways.
- Stop the blades rotating before crossing surfaces other than grass.

- Remember that some people are deaf or blind and that children and animals can be unpredictable.
- Keep travelling speeds low enough for an emergency stop to be effective and safe at all times, in any conditions.
- Remove or avoid obstructions in the area to be cut, thus reducing the possibility of injury to yourself and/or bystanders.
- When reversing, take special care to ensure that the area behind is clear of obstructions and/or bystanders. DO NOT carry passengers.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
- When the machine is to be parked, stored or left unattended, lower the cutting means unless the transport locks are being used.
- While mowing, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
- Check the grass catcher frequently for wear or deterioration. After striking a foreign object. Inspect the lawnmower for damage and make repairs before restarting and operating the equipment.
- If the machine starts to vibrate abnormally, check immediately.

3.5 TRANSPORTING

- Ensure that the cutting units are securely fastened in the transport position. Do not transport with cutting mechanism rotating.
- Drive the machine with due consideration of road and surface conditions, inclines and local undulations.
- Sudden decelerating or braking can cause the rear wheels to lift.
- Remember that the stability of the rear of the machine is reduced as the fuel is used.

3.6 LEAVING THE DRIVING POSITION

- Park the machine on level ground.
- Before leaving the driving position, stop the engine and make sure all moving parts are stationary. Apply brakes and disengage all drives. Remove the starter key.

3.7 SLOPES**TAKE EXTRA CARE WHEN WORKING ON SLOPES**

- Local undulations and sinkage will change the general slope. Avoid ground conditions which can cause the machine to slide.
- Keep machine speeds low on slopes and during tight turns.
- Sudden decelerating or braking can cause the rear wheels to lift. Remember there is no such thing as a "safe" slope.
- Travel on grass slopes requires particular care.

DO NOT USE ON SLOPES GREATER THAN 15°

IMPORTANT: When working on any slope set the weight transfer, if fitted to its maximum (+) setting.

3.8 BLOCKED CUTTING CYLINDERS

- Stop the engine and make sure all moving parts are stationary.
- Apply brakes and disengage all drives.
- Release blockages with care. Keep all parts of the body away from the cutting edge. Beware of energy in the drive which can cause rotation when the blockage is released.
- Keep other people away from the cutting units as rotation of one cylinder can cause the others to rotate.

3.9 ADJUSTMENTS, LUBRICATION AND MAINTENANCE

- Stop the engine and make sure all moving parts are stationary.
- Apply brakes and disengage all drives.
- Read all the appropriate servicing instructions.
- Use only the replacement parts supplied by the original manufacturer.
- When adjusting the cutting cylinders take care not to get hands and feet trapped when rotating cylinders.
- Make sure that other people are not touching any cutting units, as rotation of one cylinder can cause the others to rotate.

- To reduce the fire hazard, keep the engine, silencer and battery compartments free of grass, leaves or excessive grease.
- Replace worn or damaged parts for safety.
- When working underneath lifted parts or machines, make sure adequate support is provided.
- Do not dismantle the machine without releasing or restraining forces which can cause parts to move suddenly.
- Do not alter engine speed above maximum quoted in Engine Specification. Do not change the engine governor settings or overspeed the engine. Operating the engine at excessive speed may increase the hazard of personal injury.
- When refuelling, STOP THE ENGINE, DO NOT SMOKE. Add fuel before starting the engine, never add fuel while the engine is running.
- Use a funnel when pouring fuel from a can into the tank.
- Do not fill the fuel tank beyond the bottom of the filler neck.
- Replace all fuel tank and container caps securely.
- Store fuel in containers specifically designed for this purpose.
- Refuel outdoors only and do not smoke while refuelling.
- If fuel is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until fuel vapours have dissipated.
- Allow the engine to cool before storing in any enclosure.
- Never store the equipment with fuel in the tank inside a building where fumes may reach an open flame or spark.
- If the fuel tank has to be drained, this should be done outdoors.
- Do not spill fuel onto hot components.
- When servicing batteries, DO NOT SMOKE, and keep naked lights away.
- Do not place any metal objects across the terminals.

DANGER - Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING - Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION - Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices.

IMPORTANT: Transport speed is for highway use only. Never select transport speed on grass areas or uneven or unsurfaced roads or tracks.



Hydraulic Fluid escaping under pressure can penetrate skin and do serious damage. Immediate medical assistance must be sought.



Batteries produce explosive gases and contain corrosive acid and supply levels of electrical current high enough to cause burns.



DO NOT USE ON SLOPES GREATER THAN

4.1 CONFORMITY CERTIFICATES

**EC Declaration of Conformity • Déclaration de Conformité CE •
EG Conformance-Declaratie • EG-Konformitätsbescheinigung •
Certificato di Conformità CE • EF Konformitetserklæring •
EU Uppfyllandecertifikat • Ilmoitus yhdenmukaisuudesta ey:n sääntöjen kanssa •
Declaración de Conformidad de la CE • Declaração de Conformidade da CE**

We the undersigned • Nous, soussignés • Wij, ondergetekenden • Wir, die Unterzeichnenden • Noi sottoscritti Undertegnede •
Undertecknarna • Me allekirjoittaneet • Los abajo firmantes • Nós, abaixo assinados

Ransomes Jacobsen Limited
West Road, Ransomes Europark,
Ipswich, England, IP3 9TT

Declare that the machine Described Below • Certifions que la machine suivante • verklaren dat onderstaand beschreven machine •
erklären, dass die nachfolgend beschriebene Maschine • Dichiariamo che la macchina descritta di seguito • Erklærer, at følgende maskine •
Deklarerar att den maskin som beskrivs nedan • vahvistamme, että alla kuvattu kone • Certificamos que la máquina descrita abajo •
declaramos que a máquina a seguir descrita

Make & Type • Nom & Type • Merk & Type • Marke und Typ • Marca e tipo •
Fabrikat og type • Fabrikat & typ • Malli ja tyyppi • Marca y Tipo • Marca & Tipo **Ransomes Trailed Gang Mower**

Category • Modèle • Catégorie • Kategorie • Categoria • Kategori • Luokka •
Categoría • Categoría **Towed Gang Mower**

Series • Série • Serie • Sarja **LW, LX, LY & LZ**

Cutting Width • Largeur de coupe • Maaibreedte • Schnittbreite •
Larghezza di taglio • Klippebredde • Klippbredd • Leikkuuleveys •
Anchura de corte • Potência real instalada **76 cm to 625 cm**

Configuration:

Sportcutter mk 11 trailed gang unit with pneumatic wheels or steel wheels

Series: **LX (LBMA071) & LW (LBMA072)**

Magna mk 13 trailed gang unit with pneumatic wheels or steel wheels

Series: **LY (LBMA074) & LZ (LBMA073)**

3 Unit Magna mk 13 trailed gang unit with pneumatic or steel wheels. And 3 unit Sportcutter mk 11 trailed gang unit with pneumatic wheels or steel wheels

Series: **LJBA015 or LJBA016. LJBA003 or LJBA004.**

5 Unit Magna mk 13 trailed gang unit with pneumatic or steel wheels. And 5 unit Sportcutter mk 11 trailed gang unit with pneumatic wheels or steel wheels

Series: **LJBA017 or LJBA018. LJBA005 or LJBA006.**

Mounted 3 unit Magna mk 13 gang mower with pneumatic wheels. And mounted 3 unit Sportcutter mk 11 gang mower with pneumatic wheels

Series: **LJBA023 and LJBA011.**

7 Unit Magna mk 13 trailed gang unit with pneumatic or steel wheels. And 7 unit Sportcutter mk 11 trailed gang unit with pneumatic wheels or steel wheels

Series: **LJBA019 or LJBA020. LJBA007 or LJBA008.**

Complies with the provisions of the following European directives and amendments and the regulations transposing it into national law •
Est conforme aux prescriptions des normes, modifications et règles européennes suivantes • voldoet aan de bepalingen van de volgende
Europese Richtlijnen en Amendementen, alsmede aan de verordeningen die deze omzetten in nationale wetgeving • den Bestimmungen der
folgenden Europa-Richtlinien einschließlich aller Änderungen und Ergänzungen sowie den Vorschriften, die diese in das nationale Recht
umsetzen, entspricht • soddísfa quanto previsto dalle seguenti direttive ed emendamenti europei e dalle normative che li riportano in legge
nazionale • Overholder bestemmelserne i følgende EF-direktiver med ændringer og i de forordninger, hvorved de omsættes til national lov •
Uppfyller kraven i följande europeiska direktiv med tillägg och regler transponerade till nationell lagstiftning • täyttää seuraavana mainittujen
Euroopan direktivien ja muutosten ja säännösten asettamat edellyt

Machinery Safety Directive • Directive de sécurité des machines • Richtlijn Machineveiligheid • Richtlinie zur Maschinensicherheit •
Direttiva sulla sicurezza del macchinario • Maskinsikkerhedsdirektivet • Maskinsäkerhetsdirektiv • Koneen turvallisuuksa koskeva direktiivi •
Directiva de seguridad de maquinaria • Directiva de segurança de máquinas **98/37/EC**

GB **FR** **NL** **DE** **IT** **DK** **SE** **FI** **ES** **PT**
English French Dutch German Italian Danish Swedish Finnish Spanish Portuguese

Complies with the following harmonised standard or technical provisions • est conforme aux normes harmonisées • Voldoet aan de volgende geharmoniseerde norm of technische bepalingen • Diese Maschine entspricht den folgenden harmonisierten Normen oder technischen Bestimmungen • Rispetta il seguente standard armonizzato o requisiti tecnici • Overholder følgende harmoniserede standardbestemmelser eller tekniske bestemmelser • Uppfyller följande harmoniserade standard eller tekniska definitioner • täyttää seuraavat harmonisoidut standardit tai tekniset edellytykset • Cumple con los siguientes estándares de armonización o provisiones técnicas • Está em conformidade com a norma harmonizada ou com as provisões técnicas seguintes

Machinery Safety • Sécurité des machines • Machineveiligheid • Maschinensicherheit • Sicurezza del macchinario • Maskinsikkerhed • Maskinsäkerhet • Koneen turvallisuus • Seguridad de maquinaria •
Segurança de máquinas **EN836**

Keeper of Technical File, Place & Date of Declaration • Lieu & Date de déclaration • Plaats & datum verklaringaflegging • Ort und Datum dieser Erklärung • Luogo e data della dichiarazione • Sted og dato for erklæringen • Plats & datum för deklaration • Lausunnon paikka ja päivämäärä • Lugar y fecha de la declaración • Local e data da declaração

Technical Director
Ransomes Jacobsen Limited
Central Avenue, Ransomes Europark,
Ipswich, England, IP3 9QG

01.09.2004



T Lansdel
Technical Director

Certificate Number • Numéro du certificat • Certificaatnummer • Zertifikat Nummer •
Numero certificato • Certifikatnummer • Certifikat nummer • Sertifikaattinumero •
Número de certificado • Número do Certificado

4129431 (Rev.1)



5.1 SAFETY DECALS AND INSTRUCTION DECALS

A903489 Keep a Safe Distance from the Machine.

A903494 Caution Rotating Blades.

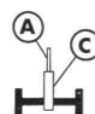
**5.2 COMPONENTS FOR TRAILED UNITS**

Single unit Gang Mower

Cutting unit

Short draw bar (A)

Unit frame (C)



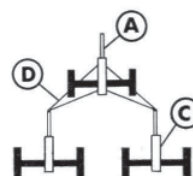
3-Unit Gang Mower

3 Cutting units

3 Short draw bars (A)

3 Unit frames (C)

2 Extension wings (D)



5-Unit Gang Mower

5 Cutting units

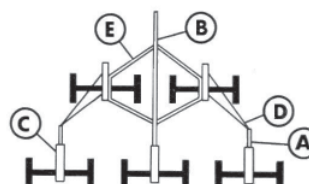
3 Short drawbars (A)

1 Long drawbar (B)

5 Unit frames (C)

2 Extensions wings (D)

1 Twin coupling frame (E)



7-Unit Gang Mower

7 Cutting units

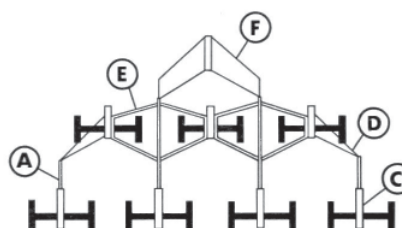
4 Short drawbars (A)

2 Extension wings (D)

2 Twin coupling frames (E)

1 Single point 7 unit drawbar (F)

7 Unit frames (C)



9-Unit Gang Mower

9 Cutting units

6 Short drawbars (A)

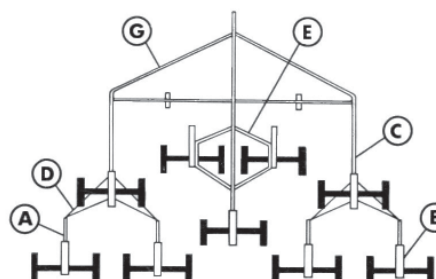
2 Long drawbars (C)

9 Unit frames (B)

4 Extension Wings (D)

1 Twin coupling frame (E)

1 Expac 9 unit yoke (G)



**5.3 DIMENSIONS AND CUTTING
PERFORMANCE**

	Model Gang Mowers						Mounted Gang Mower
Number of Cutting Units		1	3	5	7	9	3
Width of Cut		76 cm (2ft 6in)	2.1 m (7ft 0in)	3.5 m (11ft 6in)	3.27 m (16ft 0in)	6.25 m (20ft 6in)	2.1 m (7ft 0in)
Overall Width		1.22 m (4ft 0in)	2.59 m (8ft 6in)	3.96 m (13ft 0in)	5.33 m (17ft 6in)	6.70 m (22ft 0in)	2.59 m (8ft 6in)
Overall Length		81 cm (2ft 8in)	2.59 m (8ft 6in)	3.88 m (12ft 9in)	3.27 m (10ft 9in)	4.64 m (15ft 3in)	2.59 m (8ft 6in)
Transport Width		-	-	-	-	-	2.43 m (8ft 1in)
Hectares (Acres) Cut per hour	8 kph (5 mph)	0.40 (1.0)	1.20 (3.0)	2.00 (5.0)	2.80 (7.0)	3.60 (9.0)	1.20 (3.0)
	10 kph (7 mph)	0.50 (1.4)	1.50 (4.2)	2.50 (7.0)	3.50 (9.8)	4.5 (12.6)	1.50 (4.2)
	16 kph (10 mph)	0.80 (2.0)	2.40 (6.0)	4.00 (10.0)	5.60 (14.0)	7.20 (18.0)	2.40 (6.0)
Drawbar Pull	Initial Pull	100 kg (220 lb)	300 kg (660 lb)	500 kg (1100 lb)	700 kg (1540 lb)	900 kg (1980 lb)	300 kg (660 lb)
	In work	50 kg (110 lb)	150 kg (330 lb)	250 kg (550 lb)	350 kg (770 lb)	450 kg (990 lb)	150 kg (330 lb)

5.4 WEIGHT

Mounted Gang Mower:

Frame: 176 kg

Individual Cutting Unit:

Sportcutter Mk 11: 115 kg

Magna Mk 13: 125 kg

6.1 ASSEMBLY—SINGLE UNIT GANG MOWER

1. (Fig. 1). Unscrew the pivot bolt (A) from the centre of the unit frame. Insert the lifting lever (B), spring first, into the rear of the unit frame. The cranked handle can face right or left. Check that the spring is pointing downwards and hanging free, then insert the pivot bolt (A), through the hole in the lever and tighten. Do not over-tighten as the lever must be free to move.
2. Remove nuts and unscrew bolts (C) from the unit frame stirrups. Position frame over unit and lock the spring on to the end of the arm which points forward from the front axle of the cutting unit (Fig. 2), then lower the frame on to the unit so that the stirrups fit over the axle correctly. Screw in and tighten bolts (C). Do not over-tighten as too much pressure will distort the stirrup and cause jamming.
3. Fit the lifting link (D) to the lifting lever and lug (E), on the rear of the cutting unit bottom block. The two nuts on the main body of the link should be pointing away from the cutting cylinder. The fixed short loop at one end of the link should be bolted to the lever, the sliding long loop should be attached to the cutting unit. Do not overtighten the bolts. When correctly coupled the link should be free to pivot either end, and be free to slide in and out.
4. Remove hitchpin (F) and with the lubricating nipples on top insert the drawbar into the front of the unit frame. The slot must fit over the distance piece which is already in position. Insert the linchpin and secure with spring clip.

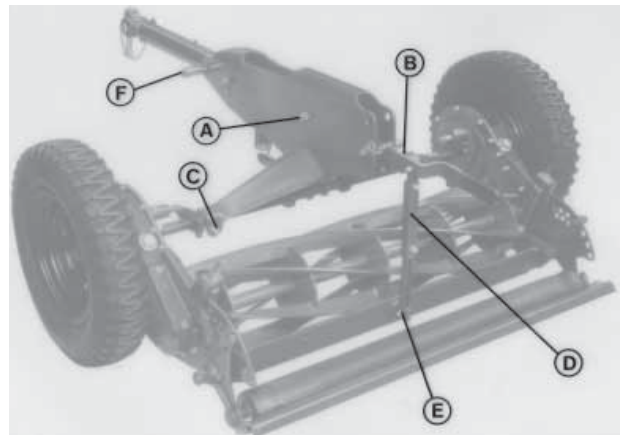


Fig 1



Fig 2

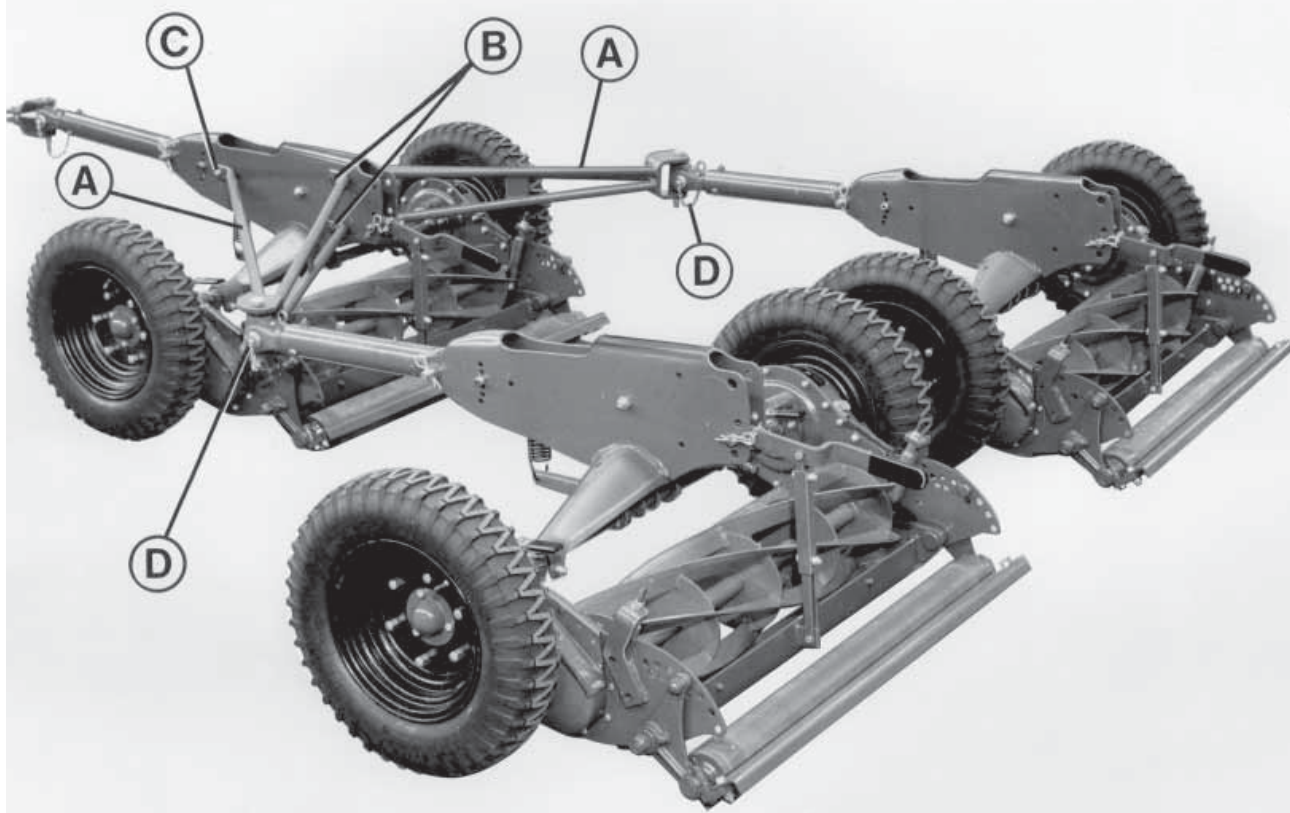


Fig 3

6.2 ASSEMBLY—3-UNIT GANG MOWER

Assemble each cutting unit as single unit mower instruction. Refer to page 10.

1. (Fig. 3). To one of the cutting units bolt on the extension wings (A) one each side of the unit frame. Two long bolts (B) are used at the rear which go through the lugs of the extension wings and the unit frame. Two short bolts (C) are used to secure the front of the extension wings. All must be tightened securely.
2. (Fig. 4). From two of the short drawbars take the universal couplings (A) and bolt these into the towing points (B) on the extension wings, ensuring that the bolts are not overtightened as this will cause distortion. The universal coupling must be free to swivel. The lubricating nipples must point upwards.
3. (Fig. 3). Couple the two rear units to the towing point on the extension wings ensuring that the chains (D) hang below the drawbars.

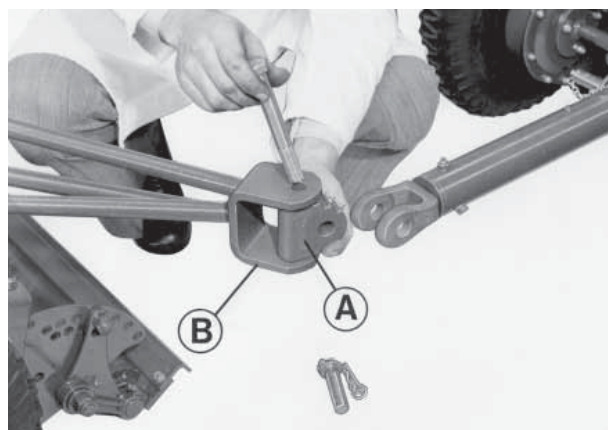


Fig 4

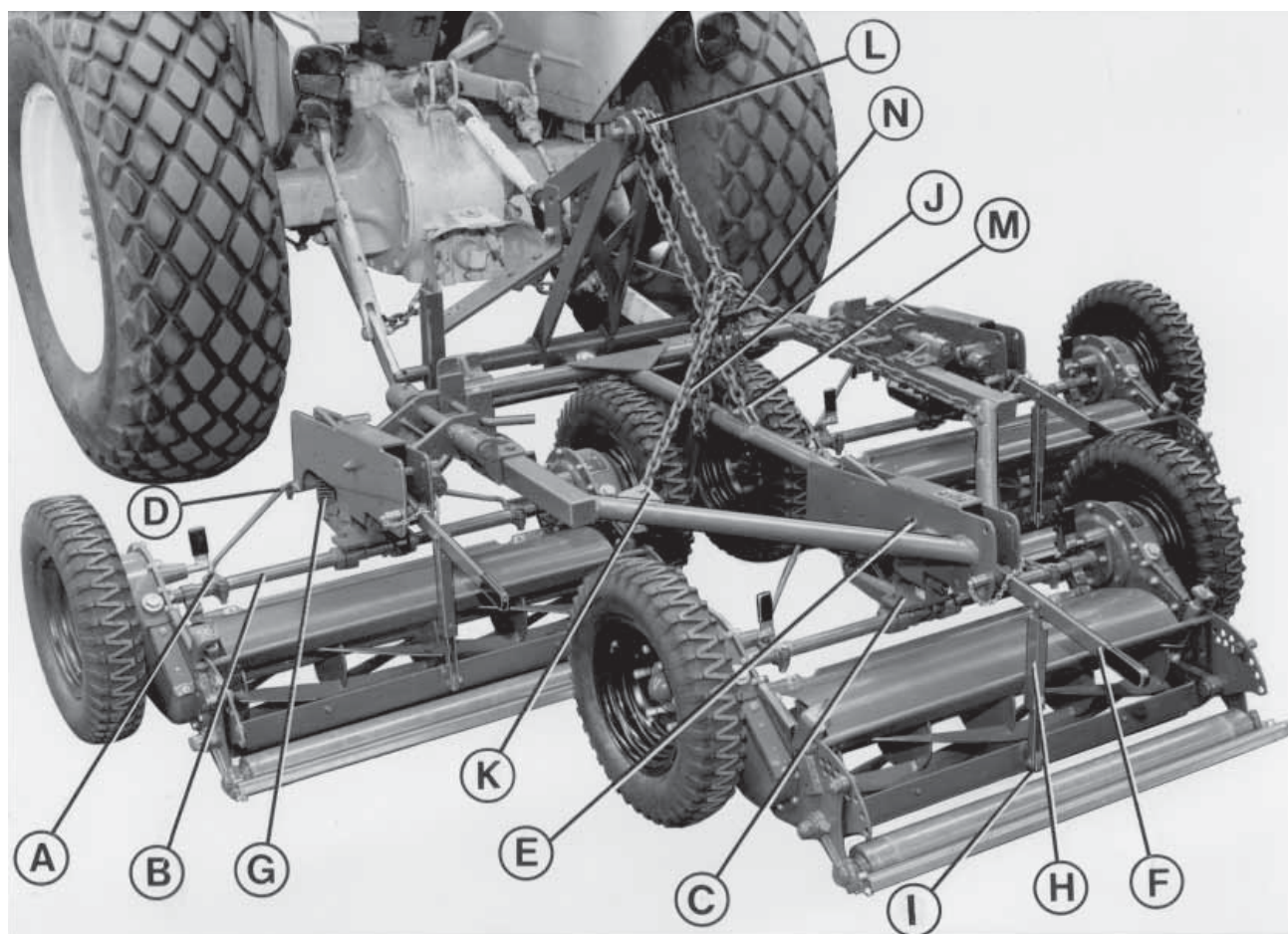


Fig 5



Fig 6

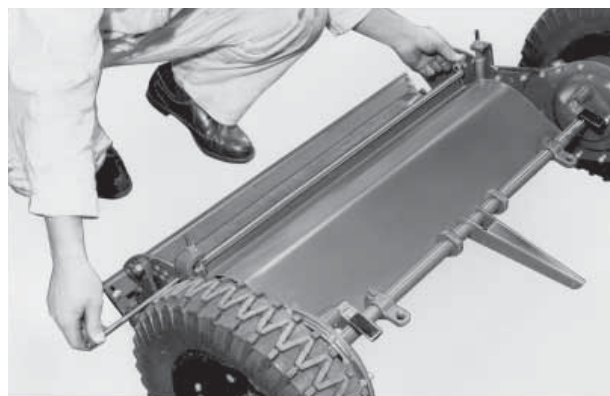


Fig 7

6.3 ASSEMBLY—3-UNIT MOUNTED GANG MOWER

1. (Fig. 5). Arrange the cutting units so that the front two are in line alongside each other, and the rear unit central. Attach the hook end of the six diagonal stays (D) into the lugs (A) on the stops of the cutting units axle (B).
2. Fit stone guards to Sportcutter Units (Fig. 6) and on Magna Units (Fig. 7). The rear of stone guard to be fitted before clamping front of guard to main axle.
3. (Fig. 5). Remove the six screws (C) from the hinge brackets of the main frame. Lift main frame over units and slide hinge brackets over the centre of the axles, insert screws and tighten.

Put end of diagonal stays (D) into lugs forward of the main frame. Retain with plain washers and split pins provided.

Remove lever pivot bolts (E) from main frames, fit the lifting levers (F) spring first, and replace pivot bolts. Hook springs (G) on to arm protruding from front of cutting unit axle.

Fit the lifting link (H) to the lifting lever (F) and lug (I) on the rear of the cutting unit bottom block. The two nuts on the main body of the link should be pointing away from the cutting cylinder. The fixed short loop at one end of the link should be bolted to the lever, the sliding long loop should be attached to the cutting unit. Do not overtighten the bolts. When correctly coupled the link should be free to pivot either end and be free to slide in and out. Remove bolts (K) from lugs on the rear diagonal tubes of the main frame and fit the short ends of the lifting chain (J). Check that chain is not twisted.

4. (Fig. 8). Slide the ball joint of the two bottom tractor arms over the end of the lifting spindle (A) using the upper point for Ford and British Leyland tractors, and the lower ones for Massey Ferguson and David Brown tractors. Insert the retaining pins supplied with the tractor.

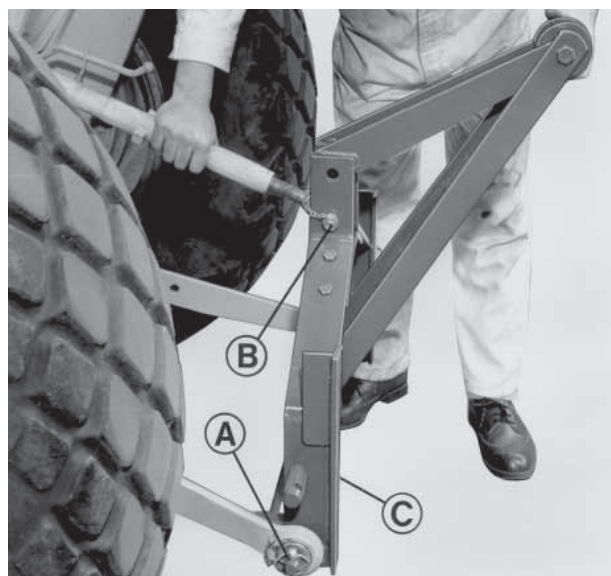


Fig 8

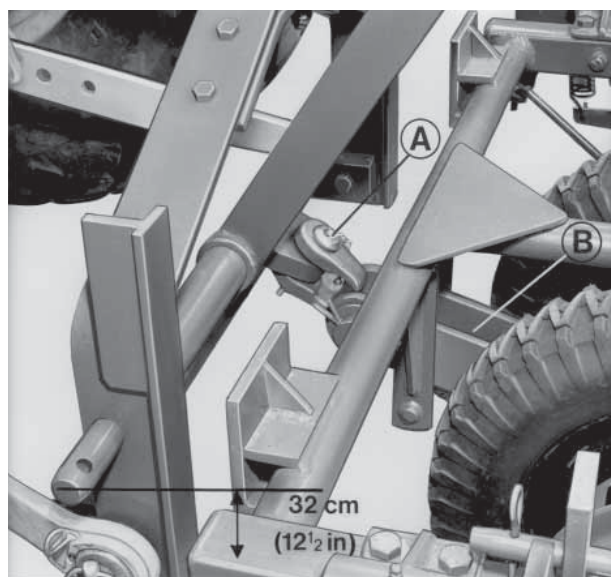


Fig 9

Swing up the lifting frame and couple the top link (B). The top hole and distance piece is used with Ford and British Leyland tractors. The top link on Massey Ferguson and David Brown tractors is fitted to the lower hole without a distance piece.

5. (Fig. 9). Reverse tractor to gang mower and hitch up the draught eye (A) inserting the pin from the top.
6. (Fig. 5). Place long end of the lifting chain over the pulley (L) and secure to lugs (M) on main frame. Check that the spring (N) is in position on the chain. It should be positioned between the short chains 15 cm (6") from the central ring.
7. (Fig. 9). Set tractor drawbar using tractor hydraulics until centre of lifting spindle is 32 cm (12.5cm) from the ground, as illustrated. Move tractor forward a little to apply a load to the draught eye and check that the swivel arms (B) are midway in the guide plate, when the outfit is on level ground. The swivel arm must not foul the top or bottom of the guide plates as in work this will result in poor ground following and bending of components. Adjust length of the top link so that the lifting frame is vertical. Lock top link.

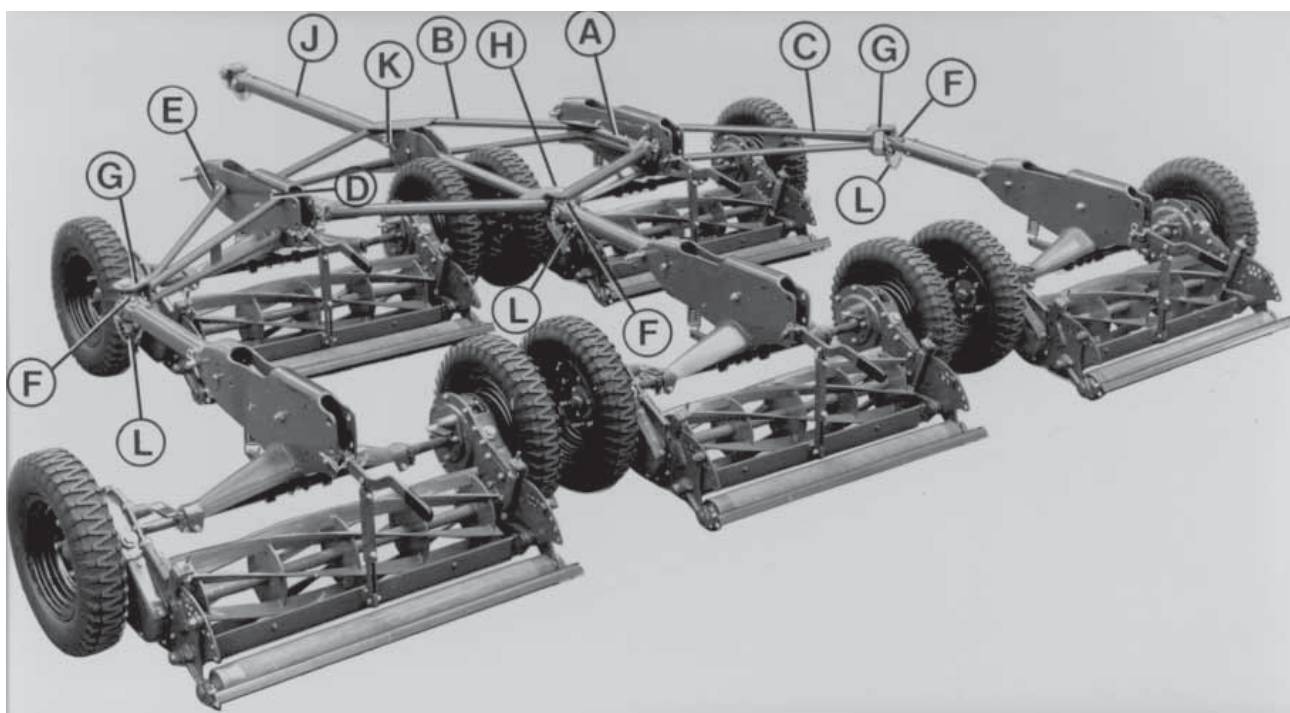


Fig 10

6.4 ASSEMBLY—5-UNIT GANG MOWER

1. Assemble three cutting units with unit frames and short drawbars, and two cutting units with unit frames only. Refer to page 10.
2. (Fig. 10). Place the two units without drawbars side by side. Remove the hinge plates (A) from the twin coupling frame (B). Bolt an extension wing (C) and a hinge plate to each unit. The extension wings are fitted to the outer sides of the unit frames and the hinge plates on the inner sides. Long bolts (D) are used on the two rear positions to secure the extension wing and hinge plate to the unit frame. Two short bolts (E) are used to secure the front of the extension wing and hinge plate.
3. (Fig. 11). Locate the twin coupling frame on to the hinge plates between the two front units and secure with clips.
4. (Fig. 10). With the lubricating nipples on top insert the long drawbar (J) into the front of the twin coupling frame. The slot fits over a distance piece which is already in position. Insert the pin (K) and secure with the spring clips.
5. (Fig. 10). From the three short drawbars remove the universal couplings (F). Bolt two couplings into the towing points on the extension wings and the other into the towing point at the rear of the twin coupling frame. Couple the three rear units to the towing points on the extension wings and centre of the twin coupling frame, ensuring that the chains (L) hang below the drawbars.

Ensure that the bolts are not overtightened as this will cause distortion.

The coupling must be free to swivel.
Lubricating nipples must point upwards.



Fig 11

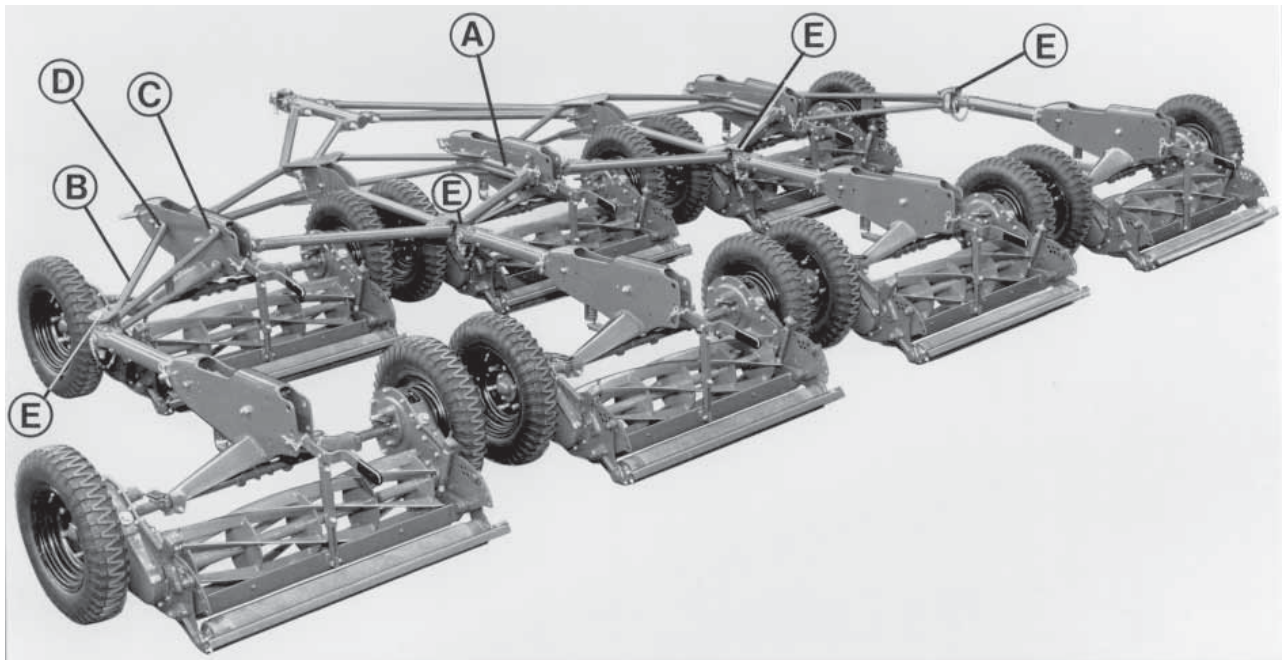


Fig 12

6.5 ASSEMBLY—7-UNIT GANG MOWER

1. Assemble four cutting units with unit frames and short drawbar and three cutting units with unit frames only. Refer to page 10.
2. Place the three units without drawbars side by side.
- 3 (Fig. 12). Remove hinge plates (A) from the coupling frames.
4. Bolt an extension wing (B) and a hinge plate (A) to the outer units. The extension wings are fitted to the outer sides of the unit frames and the hinge plates on the inner sides. Long bolts (C) are used on the two rear positions to secure the extension wing and hinge plate to the unit frame.
Two short bolts (D) are used to secure the front of the extension wing and hinge plate.
5. Bolt hinge plates on both sides of the centre unit frame with long bolts at the rear and short bolts at the front and tighten securely.
6. Locate the twin coupling frames on to the hinge plates between the three front units and secure with clips. From the four short drawbars remove the universal couplings. Bolt two couplings into the towing points on the extension wings and the other one into the towing point at the rear of the twin

7. coupling frames. Couple the four rear units to the towing point on the extension wings and centre of the twin coupling frames, ensuring that the chains hang below the drawbars. Ensure that the bolts are not overtightened, as this will cause distortion. The coupling must be free to swivel. The lubricating nipples must point upwards. (Fig. 13). Fit the seven unit drawbar (A) into the front of the twin coupling frame using the pins provided and ensuring that the lubricating nipples are pointing upwards. From the short drawbars remove the universal couplings (E) (Fig. 12). Bolt these couplings into the towing hitches on the extension wings and the towing points at the rear of the twin coupling frames. Ensure that the bolts are not overtightened as this will cause distortion. The couplings must be free to swivel. The lubricating nipples must point upwards.

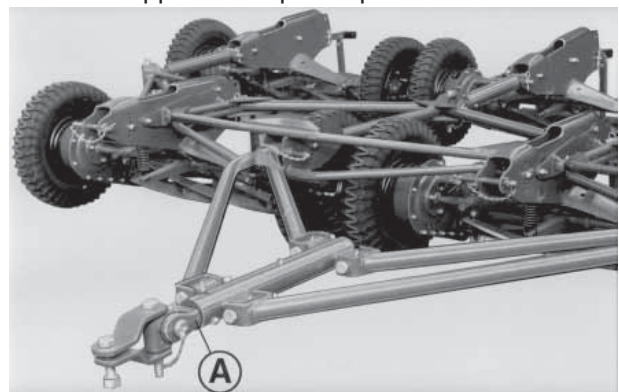


Fig 13

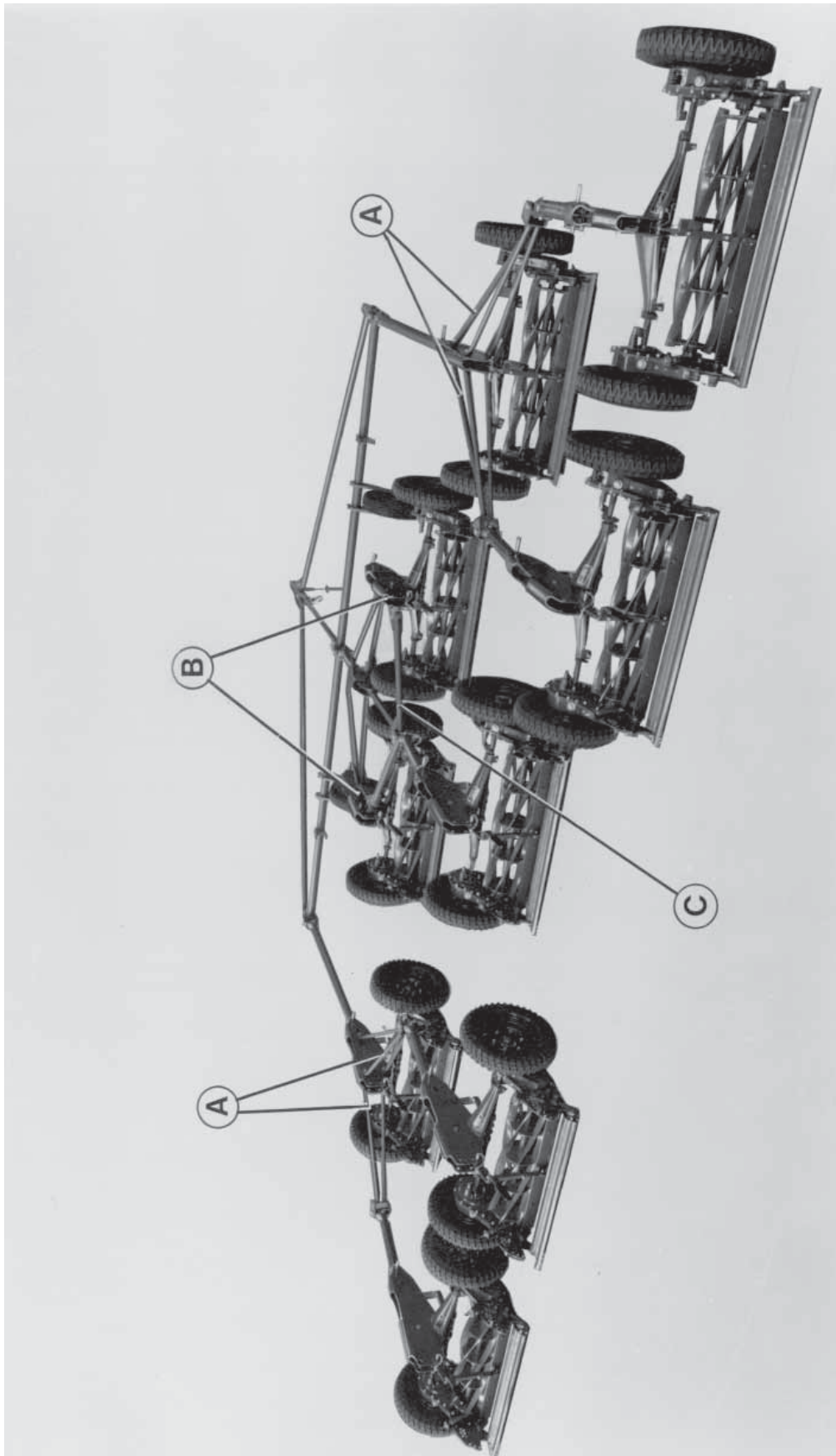


Fig 14

6.6 ASSEMBLY—9-UNIT GANG MOWER

Assemble five cutting units with unit frames and short drawbars, two cutting units with unit frames and long drawbars, two cutting units with unit frames only. Refer to page 10.

2. (Fig. 14). To two of the units fitted with unit frames and long drawbars fit extension wings (A) to both sides using long bolts to secure the rear and short bolts at the front.
 3. Position the two units without drawbars side by side. Remove the hinge plates (B) from the twin coupling frame and bolt these to the inner sides of the unit frame using long bolts at the rear and short bolts at the front. Locate twin coupling frame (C) on to the hinge plates and secure with clips. Fit short drawbar to front of twin coupling frame. Remove hitch pin and with the lubricating nipples on top insert the drawbar into the front of the unit frame. The slot must fit over the distance piece which is already in position. Insert the hitch pin and secure with spring clip.
 4. (Fig. 15). Fit centre tube (A) of the yoke to the main tube (B). Check that the stand (C) and hook (D) are pointing downwards and secure with the bolts, nuts and washers provided. Next fit the two outer members (E) to the front of the centre tube and to the outer face of the brackets on the end of the main tube (Fig. 16). Tighten all bolts securely. Fit wheels (F) to the main tube.
 5. Remove the universal couplings from all drawbars and bolt these to the towing points on the yoke, twin coupling frames and extension wings.

Ensure that the bolts are not overtightened as this will cause distortion. Universal couplings must be free to swivel. Lubricating nipples must point upwards.
- (a) Couple the two units fitted with twin coupling frame to the towing hitch at the centre of the yoke.

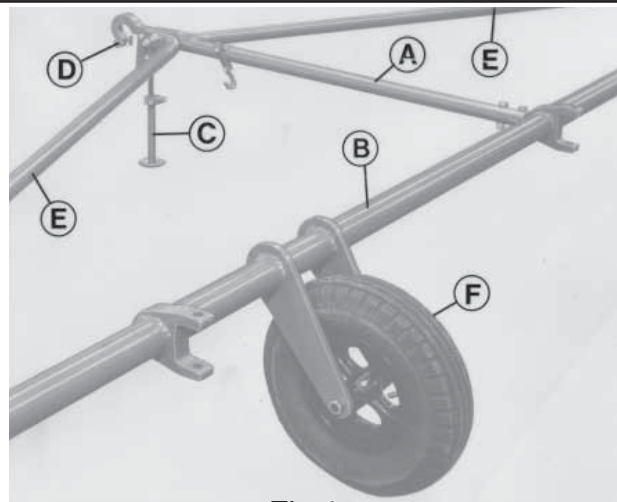


Fig 15



Fig 16

- (b) Couple one unit fitted with a short drawbar to the towing point at the rear of the twin coupling frame.
- (c) Couple two units fitted with long drawbars to the towing points at each end of the yoke.
- (d) Couple four units fitted with short drawbars to the towing points on the extension wings.

Ensure when securing drawbars to towing hitches that the chain attached to the hitch pins hang below the drawbars.

**6.7 COUPLING THE GANG MOWERS
TO A TRACTOR**

(Fig. 17). The tractor drawbar must be fixed. If it is a swivelling type, a bracket (A) must be fitted to prevent it from tipping up or down. Stabilisers must be fitted to the lower links of the tractor to prevent movement from side to side. Bolt the tractor hitch (B) to the tractor drawbar and tighten securely.

**TRACTOR TOWING HITCH FOR 1, 3, 5 AND 7
UNIT TRAILED GANG MOWER (Fig. 17)**

With the lubricating nipples on top insert the universal coupling (C) and secure with bolt. If the space between the two plates is too wide for the universal coupling fit plain washers (D) as required. The long bolt which holds the universal coupling between the plates should be inserted from the top. It must not be overtightened as this will squeeze in the plates. The universal coupling must be free to swivel. Couple the drawbar to the universal coupling with the hitch pin and clip. The chain at this point must hang freely underneath the drawbar to prevent damage.

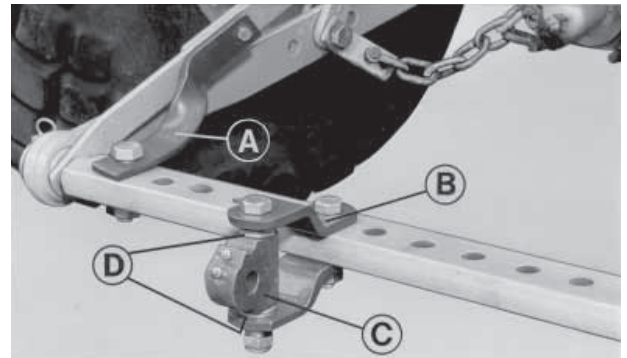


Fig 17

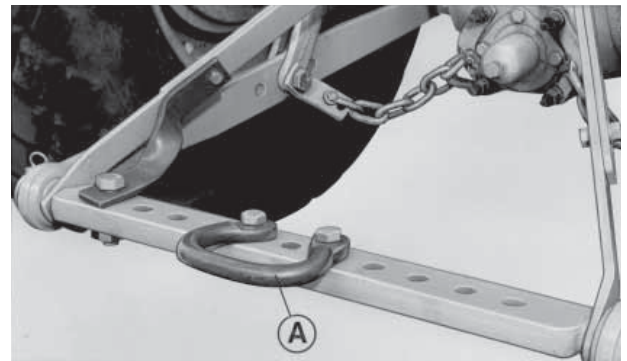


Fig 18

**TRACTOR TOWING HITCH FOR 9 UNIT
TRAILED GANG MOWER**

The tractor loop (A, Fig. 18) is bolted to the centre of the tractor drawbar. The yoke is supported by the adjustable stand (A, Fig. 19). The tractor can then be reversed so that the tractor loop is beneath the hook on the yoke. The foot rest is then retracted allowing the hook to locate in the tractor loop. A safety catch (B) must be raised and held in position by the drop pin.

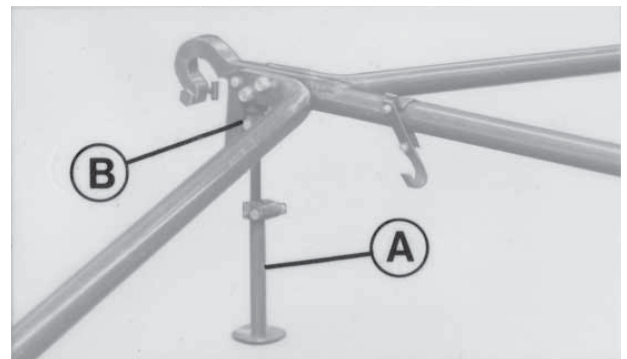


Fig 19

ALIGNMENT AND ADJUSTMENTS

(Fig. 20). With the tractor on level ground and the drawbar set at 15" from the ground check that the top of the unit frame is horizontal. If it is not it can be adjusted by withdrawing the bolts from the front of the unit frame (A). This will allow the front of the unit frame to be raised or lowered to give correct level. The bolt should be replaced in the nearest hole but check that the distance piece inside the unit frame is in position before securing.

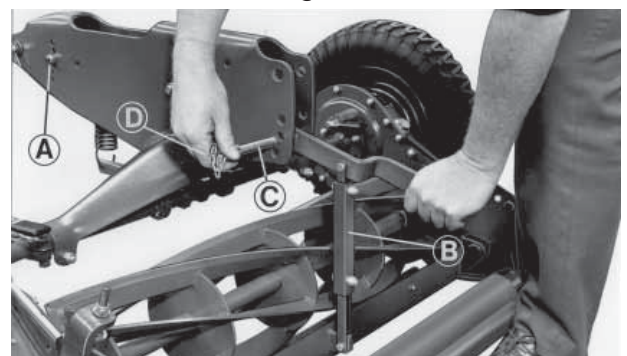


Fig 20

Adjust the rear roller of the cutting unit to give the height of cut you require, then check the position of the lifting link (B). The sliding part of the link should be in a mid way position, i.e. half the link should be outside the square main body and half inside, ensuring maximum float of the cutting unit over ground undulations. The lifting lever can be moved to any one of three positions to give this adjustment. The lever is secured by a pin (C) which should be placed into the nearest hole when the

link is in its correct position.

If the height of cut is altered you must check the position of the lifting link and adjust as necessary. The chain (D) at this point should be over the lever. The outfit as far as assembly and alignment is concerned is now ready for use but before putting it into work it must be serviced.

7.1 LUBRICATION**GEAR CASE**

Machines are despatched without oil in the gearcases which must be filled to the correct level before use. (Fig. 21). Correct lubrication of the gear box is essential for long life and good performance. Each gear box—there is one on the left and one on the right of the cutting unit—must be provided with oil up to the level of the oil level plug (A). Remove this plug to check oil level. If necessary remove filter plug (B) and top up until oil appears from level plug hole. Replace the oil level plug ensuring that the fibre washer is in position. Never top up without removing level plug. The correct grade of oil for gear boxes is SAE 140. If the unit is used with other manufacturers frame work which tilts the unit on end the gear box should be lubricated with non tracking grease to prevent leakage. Check level monthly.

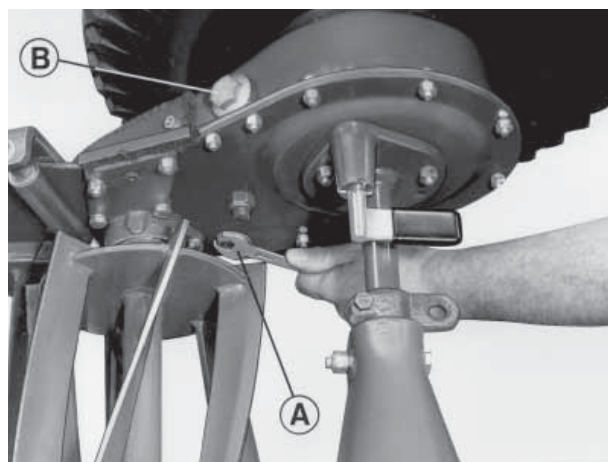


Fig 21

REAR ROLL

(Fig. 22). There are two lubricating nipples (A) in the rear roller carriages which must be lubricated weekly using oil in the lubricating gun.

DRAWBAR

Each drawbar and universal coupling has four nipples (B and C), which should be lubricated weekly.

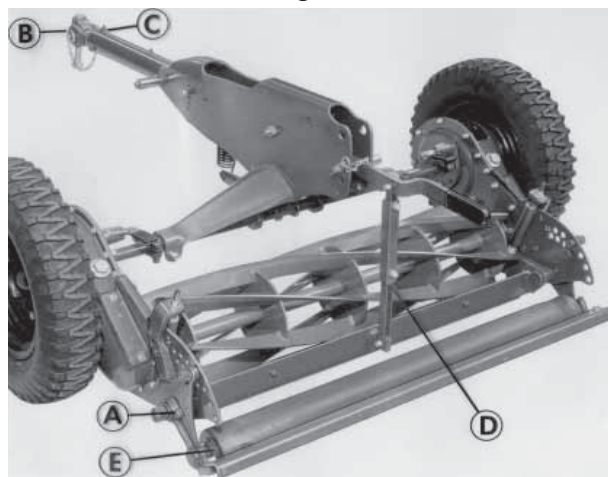


Fig 22

Do not lubricate the sliding parts or attachment points of the lifting links (D). Oil on these points will collect dirt and grit which will accelerate wear.

7.2 LUBRICATION CHART

Gear Boxes	Check and Top Up	Monthly	SAE 140 Oil or Retinax 'G' Semi Fluid Grease
Rear Roll Carriages	Lubricate	Weekly	Grease
Drawbar	Lubricate	Weekly	Grease
Universal Joint	Lubricate	Weekly	Grease

8.1 OPERATING PROCEDURE



To help prevent injury, always wear safety glasses, leather work shoes or boots, a hard hat and ear protection.

1. Under no circumstances should the engine be started without the operator seated on the tractor.
2. Do not operate tractor or attachments with loose, damaged or missing components. Whenever possible mow when grass is dry
3. First mow in a test area to become thoroughly familiar with the operation of the tractor and control levers.

Note: To prevent damage to the reel and bottom blade never operate the reels when they are not cutting grass. Excessive friction and heat will develop between the bottom blade and reel and damage the cutting edge.

4. Study the area to determine the best and safest operating procedure. Consider the height of the grass, type of terrain, and condition of the surface. Each condition will require certain adjustments or precautions.
5. Never direct discharge of material toward bystanders, nor allow anyone near the machine while in operation. The owner/operator is responsible for injuries inflicted to bystanders and/or damage to their property.



Pick up all debris you can find before mowing. Enter a new area cautiously
Always operate at speeds that allow you to have complete control of the tractor

6. Use discretion when mowing near gravel areas (roadway, parking areas, cart paths, etc.). Stones discharged from the implement may cause serious injuries to bystanders and/or damage the equipment.
7. Stop and inspect the equipment for damage immediately after striking an obstruction or if the machine begins to vibrate abnormally. Have the equipment repaired before resuming operation.



Before you clean, adjust, or repair this equipment, always disengage all drives, lower implements to the ground, engage parking brake, stop engine and remove key from ignition switch to prevent injuries.

8.2 DAILY INSPECTION



The daily inspection should be performed only when the engine is off and all fluids are cold. Lower implements to the ground, engage parking brake, stop engine and remove ignition key.

1. Perform a visual inspection of the entire unit, look for signs of wear, loose hardware and missing or damaged components. Check for fuel and oil leaks to ensure connections are tight and hoses and tubes are in good condition.
2. Make sure all cutting units are adjusted to the same height of cut.
3. Check all tyres for proper inflation.

8.3 OPERATING THE GANG MOWERS

1. (Fig. 23). Engage the cutting unit drive by pulling out and turning the gear selectors (A) on each side of the cutting unit to a vertical position and ensure that the cross pin (B) is located in the vertical groove. Both selectors must be in drive otherwise overloading and also wheel slip will be caused.

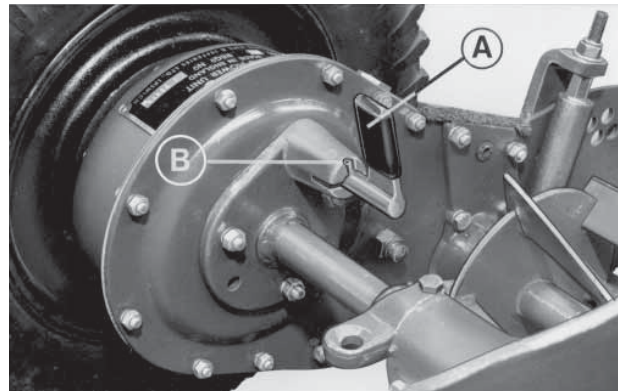


Fig 23

2. The correct towing speed is dependent on ground conditions.

Average conditions 6—8 kph (4—5 mph).

Good, relatively smooth ground conditions 9—11 kph (6—7 mph).

Speeds of up to 16 kph (10 mph) can be used where ground conditions permit.

3. If the rear rolls bounce slow down. It is a sign that you are going too fast.
4. The speed of the machine should be fast enough to give a good grass throw from the rear of the unit. This will ensure even distribution of the cut grass behind the machine and give a good appearance and also prevent grass being carried round by the cutting cylinder and choking it.

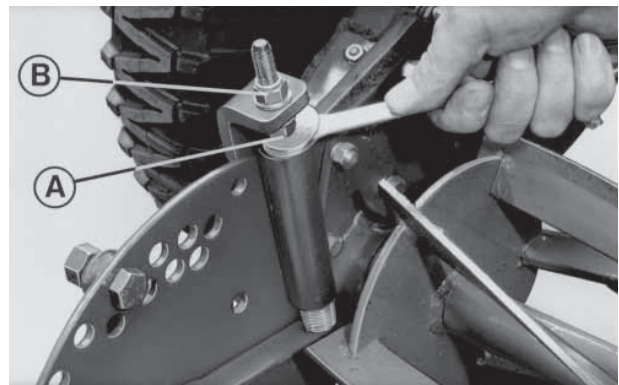


Fig 24

5. Avoid rapid acceleration or violent engagement of the tractor clutch. Pull away gently to avoid shocks to the transmission, this will help considerably towards obtaining long life and good service from your machine.

9.1 MAINTENANCE

CUTTING CYLINDER ADJUSTMENT

(Fig. 24). Before use, check the cutting cylinder adjustment, which must be set correctly and locked.

To do this, check the adjustment by revolving the cutting cylinder manually and testing with thin paper, newspaper will do. If the paper is not cut cleanly, unlock the bottom block locks (A) by turning them clockwise. Next turn the nut (B) on top of the bracket clockwise a little at a time until the cutting cylinder will cut paper cleanly. The cutting cylinder **MUST** spin freely. Retighten the bottom block lock securely, adjusting nut (B) as necessary to maintain correct setting. The correct setting of the unit is essential for good performance and long life.

HEIGHT OF CUT ADJUSTMENT

(Fig. 25). The machine is supplied to give a medium cut. To alter the height of cut remove the bolts (A) which secure the rear roll carriages and move the carriages up or down as required. Replace and securely tighten the bolts.

Note The nuts (B) need not be slackened to do this. Caution A machine should never be used with the bottom blade pressing on the ground as the cutting cylinder may be damaged by the bottom blade being forced upwards, also the wear is greater and the machine will be harder to work.

TYRE PRESSURE

The tyre pressure should be maintained at 1.05 kg/cm² (15 psi).

SCRAPER

Scrapers are intended for use in wet, muddy conditions and should be adjusted so that they are just clear of the rear roll. They must never be allowed to contact the rear roll.

REMOVING THE CUTTING CYLINDER

(Fig. 30). The cutting cylinder can be removed without dismantling the remainder of the machine. Remove the small cover (A) and gasket from the main gear cover. Take out the four screws securing the cylinder housing (B) to the side frames. The cylinder can now be lifted out by a steady upward pull applied simultaneously to each end of the cylinder.

GENERAL MAINTENANCE AND STORAGE

After use, it is recommended that you clean off the machine, brush or wipe oil on to the cutters. A few turns in reverse when you are doing this will scrape oil on to the edge of the bottom blade.

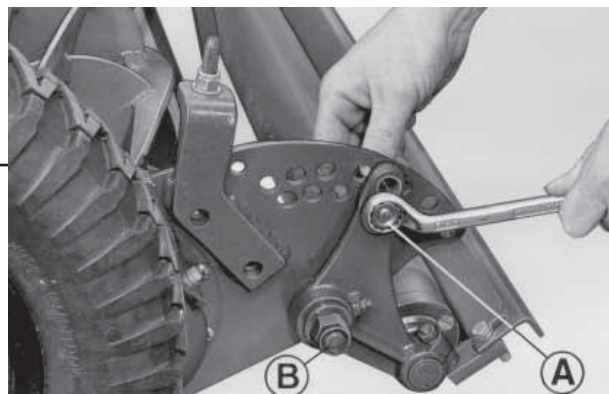


Fig 25

If the machine is washed down use low pressure only, otherwise water will be forced into the bearings and housings and cause corrosion which will shorten the working life.



Use only genuine parts supplied from your approved Textron Turf Care and Specialty Products Dealer, when maintaining and repairing your equipment.

10.1 TRANSPORTING**TRAILED GANG UNITS**

1. When moving from site to site the cutting cylinders must be out of gear, but this must not be done while the machine is in motion.
2. (Fig. 26). When trailed gang mowers are moved along paths or roads the rear rolls must be raised clear of the ground by locking the lifting lever in the top hole (A) of the unit frame.

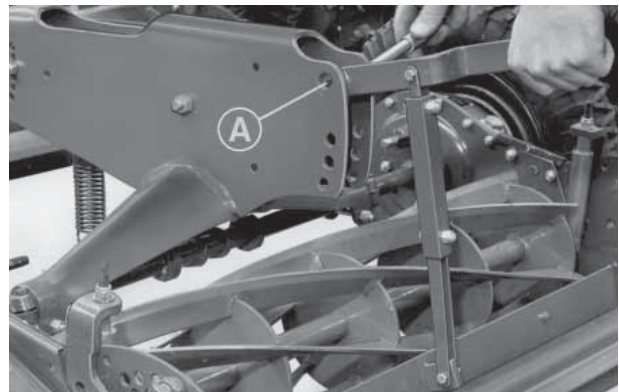


Fig 26

TRANSPORTING TRAILED GANG MOWERS IN TRAILERS AND TRUCKS

(Fig. 27). All drawbars and coupling frames can be quickly removed and the frame dismantled into easily transportable units. The lifting levers must be anchored in the bottom position (A) and the nose of the rear unit pinned into the top lifting lever hole (B) of the front unit. By this method a three unit or five unit mower can be coupled nose to tail and winched up to a truck or trailer.

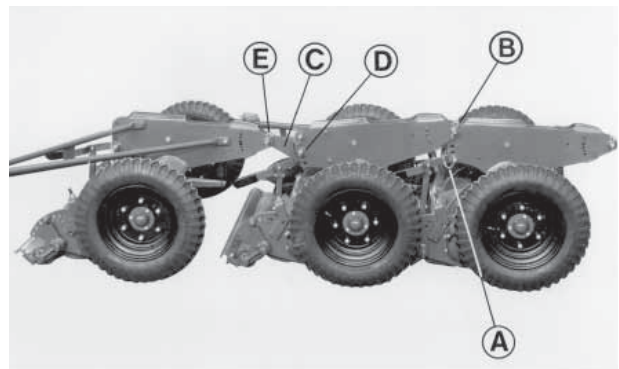


Fig 27

The unit fitted with extension wings must be the last of the series. When close packing five unit and seven unit mowers which include two unit frames fitted with one extension wing each, it is necessary to use the trailing hitch (C). This should be fitted to the lifting hole (D) of the second last unit frame and the nose of the last frame pinned through the hole in the hitch (E). The lifting lever of the last frame should be allowed to float.

before putting the machine into work. It is necessary, however, to drive the tractor forward to enable the wing units to take up their working position before replacing the locking pins.

MOUNTED TRIPLE MOWER

For road transport the machine must be raised and locked for safety to reduce the overall width of the machine to comply with the Ministry of Transport Regulations.

1. (Fig. 28). Remove locking pins (A) from hole in brackets (B) at both sides of the machine.
2. (Fig. 29). Attach check chains (A) to main axle of outer cutting units.
3. Lift machine by operating tractor hydraulic lift.
4. (Fig. 28). Replace locking pins (A) in brackets (B) at both sides of the machine.

After transporting, the above procedure is reversed

GUARANTEE

We **GUARANTEE** that should any defect in workmanship or material occur in the goods within **TWO YEARS** or two thousand hours (on models equipped with hour meters), or whichever occurs first.

Exception to this warranty will be Aeration products, which are covered for a period of **TWO-YEARS** or five hundred hours (on models equipped with hour meters) or whichever occurs first.

We will repair, or at our option, replace the defective part without making any charge for labour or for materials, provided that the claim under this guarantee is made through an authorised dealer and that the defective part shall, if we so request, be returned to us or to the dealer.

This guarantee is in addition to, and does not exclude, any condition or warranty implied by law, except that we accept no liability in respect of used/second-hand goods, or in respect of defects which in our opinion are in any way or to any extent attributable to misuse, lack of reasonable care or ordinary wear and tear, or to the fitting of spares, replacements, or extra components which are not supplied or approved by us for the purpose. The use of non-recommended oil or lubricant nullifies the guarantee.

Damage through transport or normal wear does not come under the guarantee.

The warranty is extended to the original purchaser only and is not transferable to subsequent owners. The warranty period begins on the date the product is delivered to the end user (customer), unless otherwise agreed with the manufacturer. At the end of the first year the owner must have the product serviced by an authorised dealer to be eligible for the second year of warranty coverage.

SALES & SERVICE

A network of authorised Sales and Service dealers has been established and these details are available from your supplier.

When service attention, or spares, are required for the machine, within or after the guarantee period your supplier or any authorised dealer should be contacted.

Always quote the registered number of the machine.

If any damage is apparent when delivery is made, report the details at once to the supplier of the machine.



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