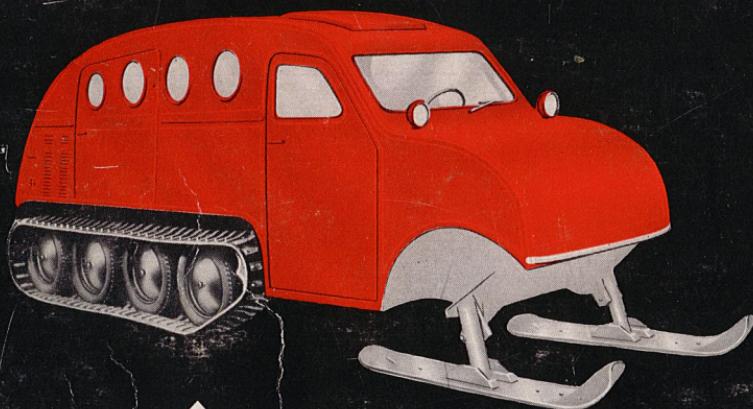


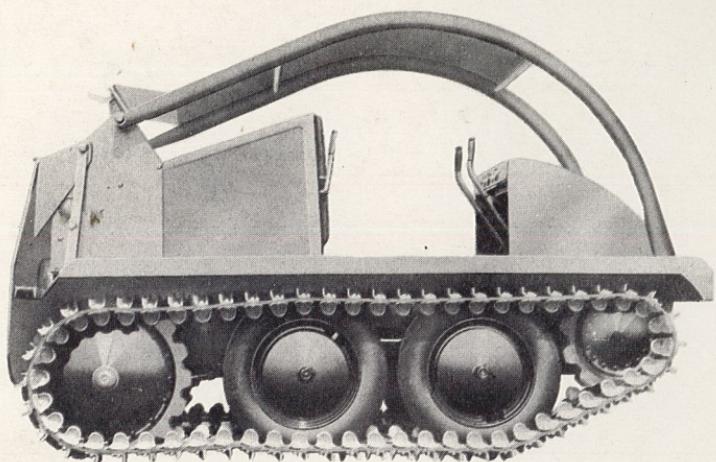
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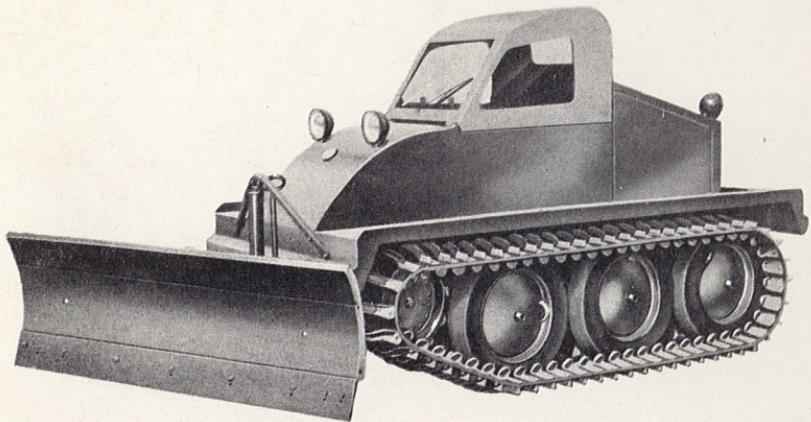
SNOWMOBILE
AUTO-NEIGE

MUSKEG CARRIER
H.D.W.





BOMBARDIER Tractor RR series
Tracteur BOMBARDIER de la série RR



BOMBARDIER Tractor SW series
Tracteur BOMBARDIER de la série SW

INTRODUCTION

This book covers J-5, SW and RR (Red Ram) tractors.

You are now among the numerous users of BOMBARDIER tractors.

In order that the use of this machine satisfies your expectations, we strongly recommend that you read and study the following pages.

Your tractor has been built with care and the best known materials were used but good maintenance will ensure long satisfactory service.

Ce manuel couvre les tracteurs J-5, SW et RR (Bélier Rouge).

Vous faites maintenant partie des nombreux usagers de tracteurs BOMBARDIER.

Afin que l'utilisation de cette machine vous donne entière satisfaction, nous vous recommandons très fortement de lire et d'étudier ces quelques pages.

Votre tracteur a été fabriqué avec tous les soins et les meilleurs matériaux connus ont été utilisés. Le bon entretien assurera un long service.

GENERAL INSTRUCTIONS

Control Levers:

The J5, SW and RR tractors differ from ordinary vehicles only by the steering and braking system.

The steering and brake levers replace the steering wheel and the brake pedal of ordinary vehicles. A right turn will be made by pulling on the right hand lever, a left turn by pulling on the left hand lever. For braking, pull on both levers at the same time.

Instrument Panel:

The instrument panel includes the following standard items; ignition switch, starter switch, ammeter, temperature gauge, wiper switch, oil and gasoline gauges and headlight switch.

The SW also includes; heater switch, hour meter, blue flasher switch, rear light switch and horn button.

Driving Control:

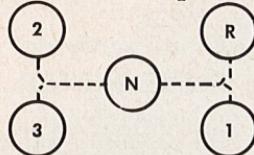
The starter button is on the right of the ignition switch.

Models J5 and SW are equipped with a hand choke located at the left of the driver's back rest. The hand choke on the Red Ram is located below the operator's seat.

There are 2 control pedals on the toe-board; the clutch pedal on the left and the accelerator pedal on the right.

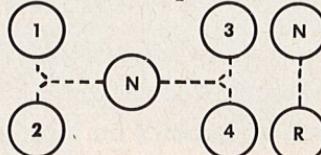
Transmission Gearshift Controls (J5 & SW)

Gearshift lever positions:



Transmission Gearshift Controls (RR series)

Gearshift lever positions:



The right hand side lever has only one travel and is used to shift into reverse.

The left hand side lever engages forward speeds.

Each lever has to be shifted back to neutral position before using the other.

INSTRUCTIONS GÉNÉRALES

Leviers de Contrôles:

Les tracteurs J-5, SW et RR diffèrent des voitures ordinaires que par le système de direction et de freinage.

Les deux leviers de commande remplacent à la fois le volant des véhicules ordinaires et les pédales de freinage. Pour exécuter un virage à droite on actionne le levier de droite et pour tourner à gauche on actionne celui de gauche. En actionnant les deux leviers en même temps, ils agissent comme freins et on obtient un arrêt rapide.

Tableau de Bord:

Le tableau de bord comprend les item réguliers suivants: clé d'allumage, commande du démarreur, ampèremètre, indicateur de température, le commutateur de l'essuie-vitre, jauge de pression d'huile et de carburant et commutateur des lumières avant.

Le SW a de plus: le commutateur de la chauffette, le cadran compteur d'heures, le commutateur du signal clignotant, le commutateur de la lumière arrière et le bouton de l'avertisseur.

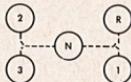
Contrôles:

La commande du démarreur est située à la droite de la clé d'allumage.

Les tracteurs J-5 et SW sont équipés d'un étrangleur manuel situé à gauche du dossier du conducteur. L'étrangleur manuel du Red Ram est situé sous le siège de l'opérateur.

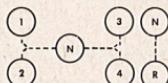
Il y a 2 pédales de commande au plancher: celle de l'embrayage à gauche et celle de l'accélérateur à droite.
Contrôles de la Boîte de Vitesses (J-5 et SW)

Positions du levier du changement de vitesse



Contrôles de la Boîte de Vitesses (RR)

Positions du levier du changement de vitesse



Le levier de droite n'a qu'une course et est utilisé pour engager la renverse. Le levier de gauche sert à engager les 4 vitesses avant.

Chacun des leviers doit être ramené à la position neutre avant de se servir de l'autre.

MAINTENANCE INSTRUCTIONS

Working with a tractor of the BOMBARDIER type requires on the part of the operator a basic knowledge of the principles of construction of the tractor so that he may take advantage of the features of the machine without abusing it or making errors which can be avoided.

For example, speed which is a marked advantage in a machine can become a cause of breakdowns if the tractor is driven too fast on rocky ground, stumps and logs, etc....

Install a screen on the radiator when working in places where there are leaves or other objects that may block the radiator.

To obtain the maximum performance from this tractor, it is very important to follow the recommendations given on the subject of lubrication.

Order:

Please specify the part number when ordering spare parts: this will enable us to deliver the exact part you need without delay. If possible, give us the serial number of your tractor.

Memo: _____

INSTRUCTIONS D'ENTRETIEN

L'utilisation d'un tracteur du type BOMBARDIER requiert de la part de celui qui le conduit une connaissance de base des principes de construction afin de prendre avantage des qualités de l'appareil sans le soumettre à des abus et erreurs dans son emploi qui pourraient occasionner une détérioration inutile ou des réparations évitables.

Par exemple, la vitesse qui est un avantage marqué deviendra une cause de brisure lorsque le tracteur sera conduit à une vitesse excessive sur un terrain rocailleux, par dessus des obstacles tels que souches et billes de bois, etc. . . .

Couvrir d'une moustiquaire le radiateur lorsque vous travaillez dans un endroit où il y a beaucoup de feuilles ou autres choses pouvant bloquer le radiateur.

Pour obtenir la meilleure performance de votre tracteur, il est très important que vous suiviez les recommandations données au sujet de la lubrification.

Envoi de commande:

Lorsque vous envoyez une commande, notez qu'il y a un numéro écrit vis-à-vis les diverses pièces de rechange. Donnez s'il vous plaît ce numéro car ceci nous permettra de livrer sans délai les pièces exactes que vous voulez. Si possible, donnez aussi le numéro de série de votre tracteur.

Memo: _____

INSTALLATION AND ADJUSTMENT OF THE TRACKS (J5 and SW)

To Remove the Tracks:

- 1 — Lift tractor,
- 2 — Remove center wheel,
- 3 — Remove adjusting-screw:
 - a) Remove lock-nut,
 - b) Unscrew adjusting screw nut and tube, then remove adjusting screw from its support on Tandem Axle,
- 4 — Unscrew bolts on pressure plates of rear spindle,
- 5 — Push rear wheel forward as much as possible,
- 6 — Remove track.

To Install the Tracks on J5 and SW, Follow these Instructions:

- 1 — Remove adjusting screw,
- 2 — Unfasten rear wheel including rear spindle from Tandem Axle by removing the bolts or nuts,
- 3 — Install tracks on sprocket,
- 4 — Engage tracks on first and second wheels and put rear wheel into tracks,
- 5 — Slide rear wheel into position and bolt rear spindle on Tandem Axle,
- 6 — Install adjusting screw and adjust tracks,
- 7 — Tighten the bolts on pressure plates of rear spindle.

To Remove the Tracks on the RR:

- 1 — Lift rear of tractor,
- 2 — Slack adjusting screw,
- 3 — Remove 5 cross links from belts around front of sprocket wheel,
- 4 — Remove rear wheel from spindle,
- 5 — Lift front of tractor and remove track.

CAUTION: Rear wheel bearings have to be kept free from dirt during operation.

To install the Tracks on the RR:

- 1 — Lift tractor,
- 2 — Remove 5 consecutive cross links from belts,
- 3 — Slack adjusting screw,
- 4 — Remove rear wheel from spindle,
- 5 — Install part of track where cross links were removed over drive sprocket and engage track over two front wheels,
- 6 — Let front of tractor down,
- 7 — Reinstall rear wheel in track and in spindle,
- 8 — Turn track so that cross links can be reinstalled easily from underneath between sprockets and front wheels,
- 9 — Tighten adjusting screw.

N.B. The tracks are adjusted by tightening the adjusting screw nut. Do not forget to tighten the lock-nut and also the pressure plates of the rear spindle found on J-5 and SW.

To give normal tension to the tracks, place the tractor on a level surface and tighten the adjusting screws until the front end of the tractor is lowered to approximately $\frac{3}{4}$ " higher than the rear when the springs are in good condition.

INSTALLATION ET AJUSTEMENT DE LA CHENILLE (J-5 et SW)

Pour enlever la chenille:

- 1 — Soulevez le tracteur.
- 2 — Enlevez la roue centrale.
- 3 — Enlevez la vis d'ajustement:
 - a) Enlevez le contre-écrou,
 - b) Desserrez l'écrou d'ajustement,
 - c) Enlevez la vis d'ajustement.
- 4 — Desserrez les boulons de la plaque de pression de l'unité d'ajustement.
- 5 — Poussez la roue arrière vers l'avant autant que possible.
- 6 — Enlevez la chenille.

Pour installer la chenille, sur le J-5 et le SW, suivez les instructions suivantes:

- 1 — Enlevez la vis d'ajustement.
- 2 — Détachez la roue arrière incluant l'unité d'ajustement Tandem en enlevant les boulons ou écrous.
- 3 — Installez la chenille sur la roue de commande.
- 4 — Engagez la chenille sur la première et deuxième roue et passez la roue arrière dans la chenille.
- 5 — Glissez le tout en position et posez les plaques de l'unité d'ajustement et les écrous.
- 6 — Installez la vis d'ajustement et ajustez la chenille.
- 7 — Resserrez les boulons de la plaque de pression de l'unité d'ajustement.

Pour enlever la chenille sur le RR:

- 1 — Soulevez l'arrière du tracteur.
- 2 — Desserrez l'écrou d'ajustement.
- 3 — Enlevez 5 traverses des courroies autour du centre avant de la roue de commande.
- 4 — Démontez la roue arrière de son essieu.
- 5 — Soulevez le devant du tracteur et enlevez la chenille.

AVIS: Protégez les coussinets contre les saletés durant cette opération.

Pour installer la chenille sur le RR:

- 1 — Soulevez le tracteur.
- 2 — Enlevez 5 traverses consécutives des courroies.
- 3 — Desserrez l'écrou d'ajustement.
- 4 — Démontez la roue arrière de son essieu.
- 5 — Glissez la chenille sur la roue de commande et sur les deux premières roues en ayant soin d'installer la partie de la chenille où les traverses sont enlevées vis-à-vis la roue de commande.
- 6 — Replacez la roue arrière dans la chenille et sur son essieu.
- 8 — Tournez la chenille pour que la partie où les traverses sont enlevées soit entre la roue de commande et la première roue et replacez les traverses.
- 9 — Serrez l'écrou d'ajustement.

N.B. L'ajustement de la chenille est donné en serrant l'écrou d'ajustement. Ne pas oublier de serrer le contre-écrou ainsi que les plaques de pression de l'unité d'ajustement qui sont employées sur le J-5 et SW.

La tension normale à donner aux chenilles est celle qui fera baisser le devant du tracteur à une hauteur d'environ $\frac{3}{4}$ " plus haut que l'arrière, la mesure étant prise au-dessus de l'aile lorsque le tracteur est sur une surface égale et que les ressorts sont en bonne condition.

INSTALLATION AND REPLACEMENT OF AXLE OR SPROCKET

To replace a sprocket or a differential axle, it is necessary to remove the tracks following the details given in previous instructions.

To replace a sprocket on J5 and RR Tractors, proceed as follows:

- 1 — Remove track,
- 2 — Remove flange bolts,
- 3 — Pull out sprocket.

To reinstall, put the sprocket back into position, bolt the flange and install the tracks as per foregoing instructions.

We recommend the following procedure for the replacement of a differential axle on J5, SW and RR Tractors and also for the changing of a sprocket on the SW:

- 1 — Remove tracks following the foregoing instructions,
- 2 — Remove bolts which hold drive axle housing to the tractor and place the drive sprocket flat on the ground,
- 3 — Press on the lock sleeve and remove the lock ring using a screw driver,
- 4 — The axle can then be removed from the housing.

ADJUSTMENT OF THE CONTROL LEVERS

The steering and brake levers are adjusted by means of a nut which should be tightened if the levers have too much free play.

The adjusting nut is located at the bottom of the lever. Loosen the lock-nut and tighten the adjusting nut leaving about 3" free play between the steering lever and the dashboard. Tighten the lock-nut. On the Red Ram, leave about 5" free play between the steering lever and the dashboard.

Whenever the tractor is in operation, steering brake bands should not be allowed to drag on the drums taking care to pull the levers only when turning or braking is needed. All control rods from the pedals are adjustable by means of adjusting nuts or clevises.

INSTALLATION ET REMPLACEMENT DES ESSIEUX OU DES ROUES DE COMMANDE

Pour faire le remplacement d'une roue de commande ou d'un essieu, il est nécessaire d'enlever la chenille d'après les détails donnés dans les instructions précédentes.

Pour remplacer la roue de commande sur tracteurs J-5 et RR, suivez les instructions suivantes:

- 1 — Enlevez la chenille,
- 2 — Enlevez les boulons de la roue de commande,
- 3 — Retirez la roue de commande.

Pour réinstallation, remettez la roue de commande en position, boulonnez et installez la chenille d'après les instructions précédentes.

Nous recommandons la procédure suivante pour le remplacement d'un essieu de différentiel sur les tracteurs J-5, SW et RR ainsi que pour le changement de la roue de commande du SW:

- 1 — Enlevez la chenille d'après les instructions précédentes,
- 2 — Enlevez les boulons qui tiennent le support conique de l'essieu au châssis du tracteur et mettez la roue de commande à plat par terre,
- 3 — Pressez sur la douille et enlevez l'anneau d'arrêt à l'aide d'un tourne-vis,
- 4 — L'essieu peut ensuite s'enlever du support.

AJUSTEMENT DES LEVIERS DE CONTRÔLE

Un écrou sert à l'ajustement des leviers de contrôle lequel doit être resserré si les leviers ont un libre jeu excessif.

L'écrou d'ajustement se trouve au bas du levier avec un contre-écrou. Desserrez le contre-écrou et resserrez l'écrou d'ajustement en laissant environ 3" de libre jeu entre le levier de commande et le tableau de bord. Resserrez le contre-écrou. Sur le RR, laissez environ 5" de libre jeu.

Lorsque le tracteur est en opération, ne pas laisser glisser les bandes de freins de contrôle en ayant soin de ne tirer sur les leviers que lorsque le virage ou le freinage est requis. Tous les leviers pour les pédales de contrôle sont ajustables par l'entremise d'écrou ou de clevis d'ajustement.

ADJUSTMENT OF BEARINGS

Adjustment of suspension tapered roller bearings.

Suspension bearings should be tightened firmly.

However, if you replace suspension parts, when you reinstall the bearings it would be preferable to turn the stop-washer inside out so as to tighten the bearings more firmly. If necessary, add a shim between the inner grease retainer and the frame cross-tube.

Pinion Bearing Adjustment:

To adjust the pinion bearings, use shims if necessary and tighten the bolt so that there is not too much play and that the pinion may be turned by hand without any resistance.

The adjustment of the crown on the pinion is made by loosening the bearing adjuster on one side and by tightening the other so that there is only .008 to .012" free play between the crown and the pinion.

980

Adjustment of Axle Shaft Bearings:

Axle shaft bearings must be adjusted with shims before reinstalling the drive axle housing assembly.

Adjustment of Wheel Bearings:

Tighten the wheel nut firmly then loosen it $1\frac{1}{2}$ to 2 slots and insert the cotter pin.

To Remove The Track From The J5 Trailer:

- 1 — Remove adjusting screw by following the instructions given previously.
- 2 — Remove nuts from bolts of rear spindle.
- 3 — Remove wheel from track.
- 4 — Remove track.

AJUSTEMENT DES COUSSINETS

Ajustement des Coussinets Coniques de Suspension:

Pour l'ajustement des coussinets de suspension, serrez l'écrou jusqu'au fond. Si parfois vous devez enlever et remonter une suspension, lorsque vous réajusterez les coussinets, il serait préférable de tourner de côté la rondelle d'arrêt extérieure afin de serrer le coussinet plus fermement. Si nécessaire, ajoutez une rondelle d'espacement entre le tube du châssis et la rondelle d'arrêt intérieure.

Ajustement des coussinets du pignon du différentiel:

Pour ajuster les coussinets du pignon, servez-vous de rondelles d'espacement si nécessaire et serrez le boulon de façon qu'il n'y ait pas de jeu et que le pignon puisse être tourné à la main sans qu'il y ait de résistance sur les coussinets.

L'ajustement de la couronne sur le pignon se fait en desserrant l'ajusteur du coussinet du différentiel sur un côté et serrant l'autre de façon à garder de .008 à .012" de jeu entre le pignon et la couronne.

Ajustement des coussinets d'essieu du différentiel:

L'ajustement des coussinets d'essieu du différentiel doit être fait avec l'aide de rondelles d'espacement avant de faire la réinstallation de l'essieu et de son support.

Ajustement des coussinets de roues:

Serrez l'écrou jusqu'au fond, puis desserrez de $1\frac{1}{2}$ à 2 coches et insérez la goupille.

Pour enlever la chenille de la remorque du tracteur J5:

- 1 — Enlevez la vis d'ajustement d'après les détails donnés dans les instructions précédentes.
- 2 — Détachez la roue arrière en enlevant les boulons de l'essieu arrière.
- 3 — Retirez la roue de la chenille.
- 4 — Enlevez la chenille.

To Install the Track on a J5 Trailer:

- 1 — Remove rear wheel by taking the bolts from rear spindle.
- 2 — Put track over the front wheel.
- 3 — Put back into place rear wheel including rear spindle and bolt it.
- 4 — Reinstall adjusting screw and adjust track.

N.B. Don't forget to tighten the lock-nuts of the rear spindle.

OPERATION OF THE HYDRAULIC PILING ARCH AND OF THE WINCH (RR)

The arm located on the left side of the driver's legs controls both the hydraulic pump and the winch; to engage, pull lever.

The lever located on the right side of the driver's shoulders controls the drum of the winch.

It is of course possible to control winch work by using left side lever only, but this could become a cause for confusion and it is best to use the right side lever to winch or drop a load.

Memo: _____

Pour installer la chenille sur la remorque du tracteur J-5:

- 1 — Retirez la roue arrière en enlevant les boulons de l'essieu arrière.
- 2 — Mettez la chenille sur la roue avant.
- 3 — Placez la roue arrière dans la chenille et réinstallez.
- 4 — Installez l'écrou d'ajustement et ajustez la chenille.

N.B. N'oubliez pas de serrer les contre-écrous de l'essieu arrière.

OPÉRATION DE L'EMPILEUSE HYDRAULIQUE ET DU TREUIL (RR)

Le levier situé à la gauche des jambes du conducteur contrôle l'action de l'empileuse hydraulique ainsi que celle du treuil: pour embrayer, tirez vers l'arrière.

Le levier situé à la droite des épaules du conducteur contrôle l'action du tambour du treuil.

Il est possible de contrôler le travail du treuil en ne se servant que du levier à gauche mais ceci mènerait peut-être à la confusion et il est préférable d'utiliser le levier du côté droit pour tirer ou relâcher une charge.

Memo: _____

RECOMMENDATIONS FOR DAILY CHECK-UP

General:

Keep the inside of the chassis clean.
Follow instructions for lubrication.

Tracks:

The correct tension of the tracks maintains the front of the tractor at approximately $\frac{3}{4}$ " higher than the rear on level ground, provided spring tension is normal. Measure from top of mudguard.

Make sure there are no broken cross links, track guards or bolts.

On a new tractor, keep the tracks and sprockets wet whenever it is possible.

Wheels:

Keep the pressure of the tires at 90 lbs.

Remove mud or any foreign matter on the suspension as it may rub against the wheels or tires.

Suspension:

Check the condition of the bogie spring link bolts as well as the nuts and cotter pins on cross shafts.

Control System:

Keep the steering brake levers well adjusted: 3" free play on J-5 and SW, 5" on RR.

Engine:

Check the oil pressure and look for possible oil or gas leaks.
Check the condition of the air filter.

Electrical System:

Check level of electrolyte in the battery.
Check all instrument panel gauges.

Cooling System:

Check the level of the coolant in the radiator; look for possible leaks.

Check tension of fan belt.

RECOMMANDATIONS POUR VÉRIFICATION QUOTIDIENNE

Générale:

Maintenir le fond du châssis du tracteur propre.

Suivre les instructions pour la lubrification.

Chenille:

La tension de la chenille est correcte lorsque l'avant du tracteur se maintient à approximativement $\frac{3}{4}$ de pouce plus haut que l'arrière quand le tracteur est sur une surface égale et que le ressort est en bonne condition. Mesurer du haut du garde-boue.

S'assurer qu'il n'y a pas de traverses de chenilles, de boulons ou de garde-chenilles défectueux.

S'il s'agit d'un tracteur neuf, gardez autant que possible les chenilles humides.

Roues:

Maintenir la pression des pneus à 90 lbs.

Enlevez la boue, la glaise ou les corps étrangers qui pourraient être sur la suspension et causer de la friction contre les roues ou les pneus.

Suspension:

Vérifier la condition des boulons supportant les ressorts ainsi que les écrous et goupilles des essieux transversaux.

Système de contrôle:

Maintenir les leviers de contrôle de direction bien ajustés: 3" de jeu libre sur le J-5 et SW, 5" sur le RR.

Moteur:

Vérifier la pression d'huile et dépister les fuites possibles de carburant ou d'huile.

Vérifier la condition de l'épurateur d'air.

Système électrique:

Vérifier le niveau de l'eau dans la batterie et le fonctionnement des cadrans indicateurs.

Système de refroidissement:

Vérifier le niveau de l'anti-gel ou de l'eau dans le radiateur et dépister les fuites.

Vérifier l'ajustement de la courroie d'éventail.

RECOMMENDATIONS FOR WEEKLY CHECK-UP

Tracks:

Check condition of the belts and look for worn cross links.
Tighten cross link bolts if necessary.

Drive:

Check the condition of the sprocket wheel and tighten bolts if necessary.

Tighten the bolts of the drive axle housing.

Wheel:

Make sure the wheel bearings are properly adjusted.

Suspension:

Condition of the links and bolts of the bogie springs.
Condition of the suspension bearings.
Check wheel alignment.

Steering System and Differential:

Adjustment of the throttle and clutch rods.
Condition of the steering brake band linings.
Differential and carrier bolts; tighten if necessary.
Universal joints of the drive shaft.
Adjustment of the pinion bearings.

Engine:

Adjustment of the valves if necessary.
Check tightness of spark plugs, manifold, exhaust and cylinder head gaskets.
Check tightness of fan bolts.

Electrical System:

Battery cables; clean and tighten.
Check wiring system.

Body:

Adjustment of the cab support friction disc.

RECOMMANDATIONS POUR VÉRIFICATION HEBDOMADAIRE

Chenilles:

Examen de la condition des courroies et de l'usure des traverses de chenilles.

Serrage des boulons de traverses si nécessaire.

Roue de commande:

Examen des roues de commande et serrage des boulons.

Resserrer les boulons unissant la cloche de l'essieu au châssis du tracteur.

Roues:

S'assurer que l'ajustement des coussinets de roues est correct.

Suspension:

Condition des accouplements et des boulons des ressorts.

Condition des coussinets supportant la suspension.

Vérification de l'alignement des roues.

Système de conduite et différentiel:

Vérifier l'ajustement des tiges de contrôles pour l'accélérateur et le système d'embrayage.

S'assurer que les garnitures de freins de contrôle ne sont pas usées.

Vérifier la tension et le serrage des boulons du couvercle et du support du différentiel si nécessaire.

Vérification des cardans de l'arbre de commande.

Vérifier l'ajustement des coussinets du pignon du différentiel.

Moteur:

L'ajustement des soupapes du moteur est-il correct ?

Vérifier le serrage des bougies ainsi que des boulons des dispositifs d'étanchéité du système d'échappement et de la culasse des cylindres.

Vérifier la tension des boulons de l'éventail.

Système électrique:

Nettoyage, graissage et serrage des fils de batterie, si nécessaire.

Vérification du système de filage.

Cabine:

Vérification de l'ajustement du disque à friction supportant la partie haute de la cabine.

LUBRICATION

BOMBARDIER TRACTORS J5, SW AND RR

Crankcase:

Check oil level daily; if oil level indicator is at "add oil", replenish.

After every 50 hours of operation, drain the oil when the engine is at operating temperature and replace with new oil of proper grade. If engine has been idle for a period of 30 days or longer, replace the oil. (4 quarts.)

Air Filter:

Drain, wash and dry the reservoir and filter element every 100 hours. Re-oil with SAE 50 engine oil in summer and SAE 20 or 30 in winter. When tractor operates in excessively dusty conditions, repeat more often.

Distributor:

2 or 3 drops of light engine oil in oil cup at every 100 hours of operation.

Oil Filler Pipe Cap:

Remove, wash and re-oil the filter element with SAE 50 oil.

Transmission:

Check the level and the condition of the oil every 50 hours. If there is condensation, change the oil using transmission oil SAE 90.

Change the oil every 200 hours by removing the transmission cover and using a suction pump.

When the vehicle operates in extremely cold conditions, use lighter grade oil.

Differential:

Check the level and the condition of the oil daily. If it is water contaminated, drain, flush and refill with 3 gallons of SAE 80 non hypoid differential oil. The drain plug is located beneath the drive axle housing on the right hand side.

Change the oil every 100 hours of operation. If the tractor operates in water or mud, change oil more often.

Oil Filter:

Replace oil filter when changing the oil (5 quarts) at every 100 hours of operation. In excessively dusty conditions, the oil filter should be changed more often.

Generator:

A few drops of oil in each oil cup every 100 hours.

LUBRIFICATION DES TRACTEURS BOMBARDIER SÉRIES J-5, SW ET RR

Carter:

Vérifiez le niveau d'huile du carter tous les jours et ajoutez si nécessaire.

A toutes les 50 heures d'opération, changez l'huile en remplaçant par de l'huile de degré approprié à la température. Si le moteur a été plus de 30 jours sans marcher, remplacez l'huile (4 pintes).

Épurateur d'air:

Videz, lavez et asséchez le réservoir et l'élément filtrant à toutes les 100 heures. Remplissez jusqu'au niveau indiqué avec de l'huile SAE 50 l'été et SAE 20 ou 30 l'hiver. Lorsque le tracteur opère dans des conditions de poussière excessive, répétez cette opération plus souvent.

Distributeur:

2 ou 3 gouttes d'huile claire dans le graisseur toutes les 100 heures.

Couvercle du tube de remplissage du carter:

Enlevez, lavez et huilez l'élément avec de l'huile SAE 50.

Boîte de Vitesses :

Vérifiez le niveau et la condition de l'huile à toutes les 50 heures. S'il y a de la condensation dans l'huile, la changer en employant de l'huile SAE 90.

Changez l'huile à toutes les 200 heures. Pour vider la boîte de vitesses, enlevez le couvercle et employez une pompe à succion.

Par température excessivement froide, employez de l'huile plus claire.

Différentiel:

Vérifiez la condition et le niveau de l'huile à tous les jours. Si elle est contaminée par l'eau, vidangez, nettoyez et remplissez en employant de l'huile à différentiel SAE 80 non-hypoïde (3 gallons). Le bouchon de drainage est situé sous le support de l'essieu du différentiel à droite.

Faites le changement d'huile à toutes les 100 heures d'opération. Si le tracteur opère dans l'eau ou dans la boue, faites le changement d'huile plus souvent.

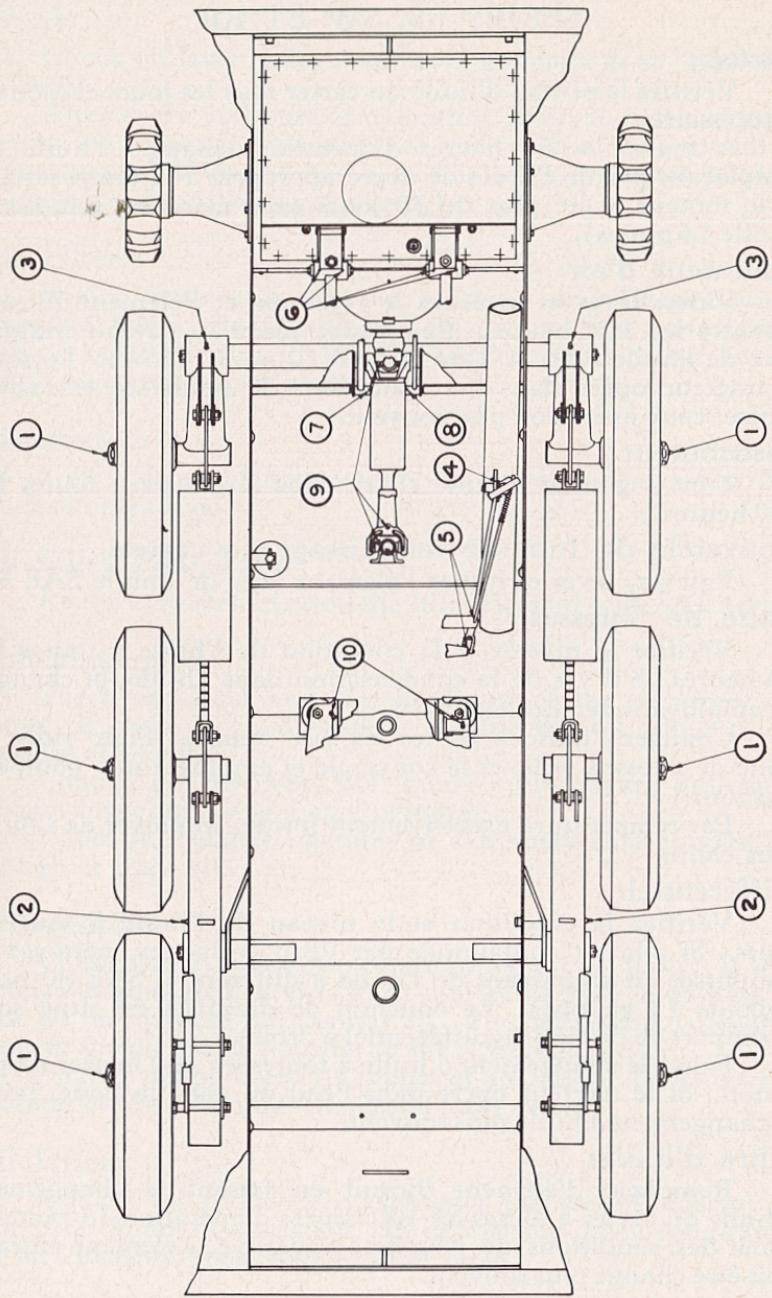
Filtre d'huile:

Remplacez l'élément filtrant en faisant le changement d'huile du carter à toutes les 100 heures d'opération (5 pintes). Dans des conditions de poussière excessive, l'élément filtrant doit être changé plus souvent.

Génératrice:

Quelques gouttes d'huile dans chaque graisseur à toutes les 100 heures.

LUBRICATION CHART
GRAPHIQUE DE LUBRIFICATION



LUBRICATION SCHEDULE

Recommended Lubricant:

It is most important to use such greases that do not mix with water and will retain texture and viscosity at operating temperatures varying from -65° to $+150^{\circ}$ FAR. (Consult your supplier.)

Grasse recommandée:

Il est important de n'utiliser que les graisses qui ne se mêlent pas à l'eau et qui maintiennent leur consistance et leur viscosité sous des températures variant de -65° à $+150^{\circ}$ FAR. (Consultez votre fournisseur.)

Ref. No.

1	Wheel bearings:	Lubricate with grease gun Lubrifiez avec fusil graisseur Twice a week when working on firm ground or snow	Once a month Une fois par mois
2	Tandem axle:	Deux fois par semaine sur terre ferme ou dans la neige	
3	Bogie spindle:	Once a day when working in mud or water	
4	Gearshift lever:	Une fois par jour dans l'eau ou dans la boue	
5	Leviers de changement de vitesse: Control & Selector rods:	On bushing, a few drops of oil Autour de la douille quelques gouttes d'huile At each end, a few drops of oil A chaque bout, quelques gouttes d'huile	
6	Steering & Brake levers:	At lower end, a few drops of oil Au bas des leviers, quelques gouttes d'huile	
7	Clutch pedal:	Remove drive shaft cover and put a few drops of oil each side of clutch shaft	
8	Throttle pedal: Pédale de l'accélérateur:	Enlevez l'enveloppe de l'arbre de commande et mettez quelques gouttes d'huile sur l'arbre de la pédale	

CÉDULE DE LUBRIFICATION

Ref. No.		With grease gun Avec fusil graisseur	Once a month Une fois par mois
9	Propeller shaft U-joint:	With grease gun Avec fusil graisseur	Once a month Une fois par mois
	Cardan de l'arbre de commande:		
10	Clutch release fork: Fourchette d'embrayage:	With grease gun Avec fusil graisseur	Once a year Une fois par année
	N.B. POUR LE RR		
	A) Lubrifiez avec fusil graisseur les 2 essieux coudeés de chaque côté du véhicule (voir 3)		
	B) Lubrifiez avec fusil graisseur, le cylindre du ressort de la suspension en prenant soin de ne pas emplir le cylindre (2 fois par année)		
	C) La lubrification du support de la roue arrière peut se faire annuellement ou à l'occasion d'une réparation ou d'un remplacement.		
	D) Huilez les joints des contrôles et leviers du système hydraulique et du treuil (mensuellement)		
	N.B. 'FOR RR:		
	A) Lubricate with grease gun the 2 bogie spindles on each side of vehicle (see 3)		
	B) Lubricate with grease gun, bogie spring cylinder but do not fill cylinder (twice a year)		
	C) Lubrication of rear wheel support can be done annually or upon overhauling or repairing		
	D) Lubricate with oiler, hydraulic system and winch, control arm joints and linkage (monthly)		

PROTECTING TRACTOR ENGINE DURING STORAGE

The recommended procedure for rust preventive treatment when the tractor is not operated during 30 days or more is outlined below:

- 1 — Remove carburetor air cleaner.
- 2 — Run engine at a fast idle speed until normal operating temperature has been reached. While engine is running, slowly pour one pint of rust preventive lubricant through the carburetor air intake. The speed of pouring should be sufficient to slow down the engine speed slightly without stalling. The addition of rust preventive lubricant in this manner should take approximately one minute.
- 3 — Provide adequate ventilation while introducing the rust preventive, as considerable smoke will be exhausted.
- 4 — Stop the engine after the rust preventive has been added.

METHOD OF DRAINING MOTOR AND RADIATOR

- 1 — Install a flexible plastic or rubber hose on the engine drain cock. This hose should have a maximum inside diameter of $\frac{1}{2}$ inch and should be 4 feet long.
- 2 — From the drain cock, this hose should pass over the mudguard and the end should come down below the level of the drain cock, so that it will act as a siphon to drain the engine block completely.

Memo: _____

SOIN DU MOTEUR DES TRACTEURS DURANT ENTREPOSAGE PROLONGÉ

Voici la procédure recommandée pour éviter la formation de rouille à l'intérieur du moteur lorsque le tracteur n'est pas opéré pour une période excédant 30 jours.

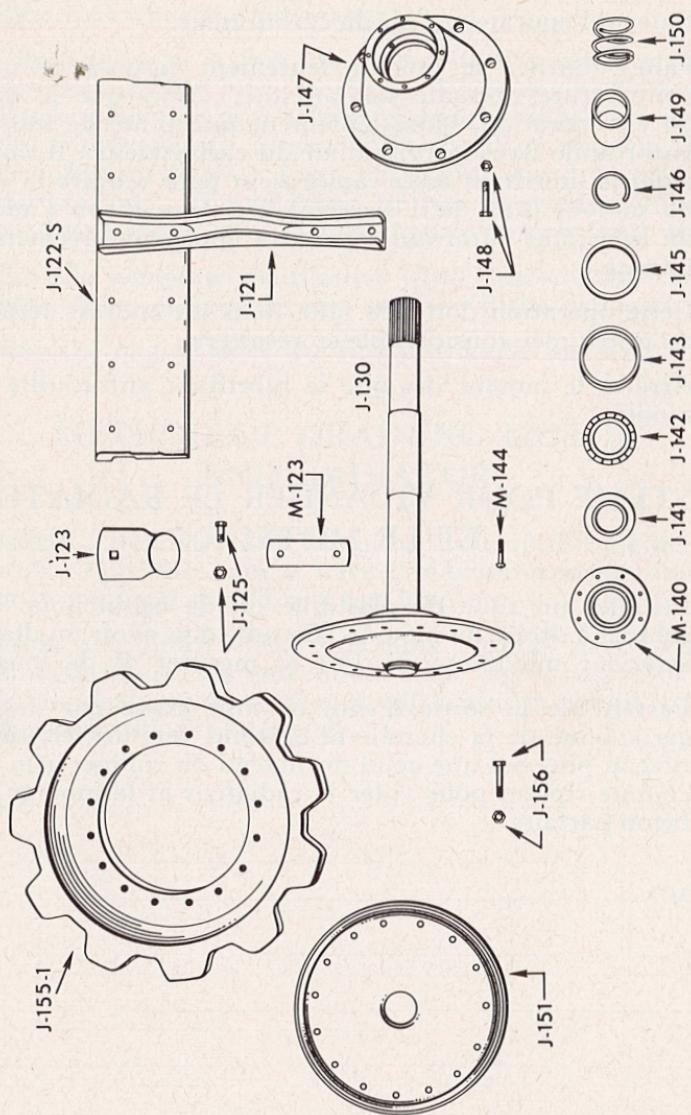
- 1 — Enlevez l'épurateur d'air du carburateur.
- 2 — Faites tourner le moteur lentement jusqu'à ce qu'une température normale soit atteinte. Alors que le moteur est en opération, videz lentement une pinte de lubrifiant anti-rouille dans la prise d'air du carburateur. Il s'agit de vider le lubrifiant assez rapidement pour réduire la vitesse du moteur sans qu'il s'arrête. De cette façon l'addition du lubrifiant anti-rouille prendra approximativement une minute.
- 3 — Cette opération doit être faite dans un endroit aéré puisqu'une fumée considérable en résultera.
- 4 — Arrêtez le moteur dès que le lubrifiant anti-rouille a été ajouté.

SYSTÈME POUR VIDANGER LE RADIATEUR ET LE MOTEUR

- 1 — Installez un tube de plastique ou de caoutchouc sur le robinet à droite du moteur. Ce tube doit avoir un diamètre intérieur maximum de $1/2''$ et mesurer 4' de longueur.
- 2 — Partant de la sortie d'eau, ce tube passe par dessus le garde-boue de la chenille et descend vers l'extérieur à un niveau plus bas que celui du niveau du robinet afin d'agir comme siphon pour vider le radiateur et le moteur d'une façon parfaite.

Memo: _____

TRACK & DRIVE

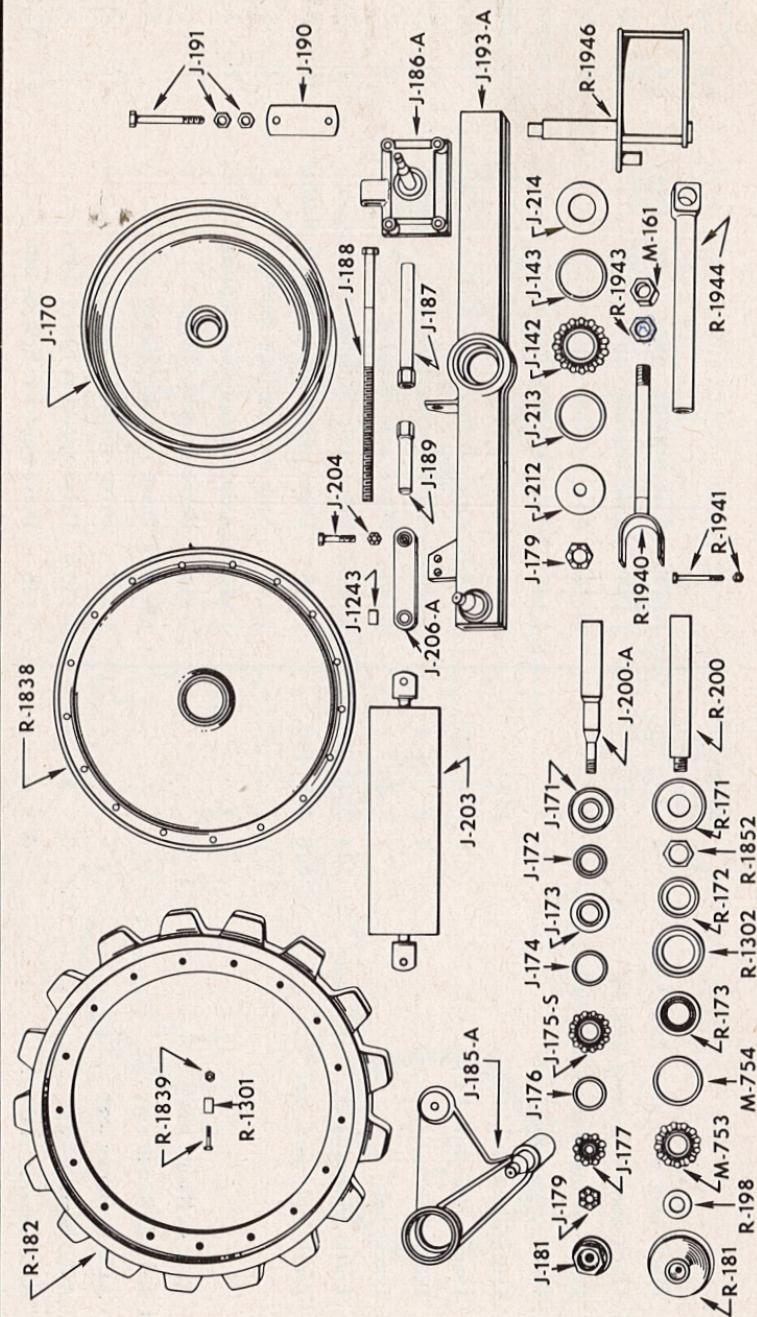


TRACK & DRIVE

TRACK	Qty per Unit			J-5 SW RR	Qty per Unit
	J-5	SW	RR		
J-120-S Track assy with cross link 3/16"	2			J-142	Axle bearing cone
SW-120 Track assy with cross link 1/4"	2			J-143	Axle bearing cup
J-120-A Track assy with cross link 1/4"	x	2		M-144	Axle bearing cap bolt
J-121 Track cross link 3/16"	112			J-145	Axle bearing shim .003
SW-121 Track cross link 1/4"	112			J-145.A	Axle bearing shim .005
J-121-A Track cross link 1/4"	x	112		J-145.B	Axle bearing shim .010
J-122-S Track belt	4	4		J-146	Axle bearing lock
SW-122 Track belt		4		J-147	Drive axle housing
J-123 Track guard	224	224	224	J-147.1	Drive axle housing gasket
J-125 Track bolt and nut	448	448	448	J-148	Drive axle housing bolt & washer
				J-149	Axle bearing lock sleeve
				J-150	Axle bearing sleeve spring
DRIVE				J-151	Drive sprocket flange
J-130 Axle & flange assy	2			SW-151	Drive sprocket flange
SW-130 Axle & flange assy	2				
R-130 Axle & flange assy		2		J-155	Drive sprocket
M-140 Axle bearing cap	2	2		J-155.1	Drive sprocket heavy duty
J-141 Axle bearing seal	4	4	4	J-156	Drive sprocket bolt & nut

X — Denotes extra equipment.

WHEEL & SUSPENSION



WHEEL & SUSPENSION

NOTE: Parts referred to note 1 were used before tractor serial No. E-1500-S

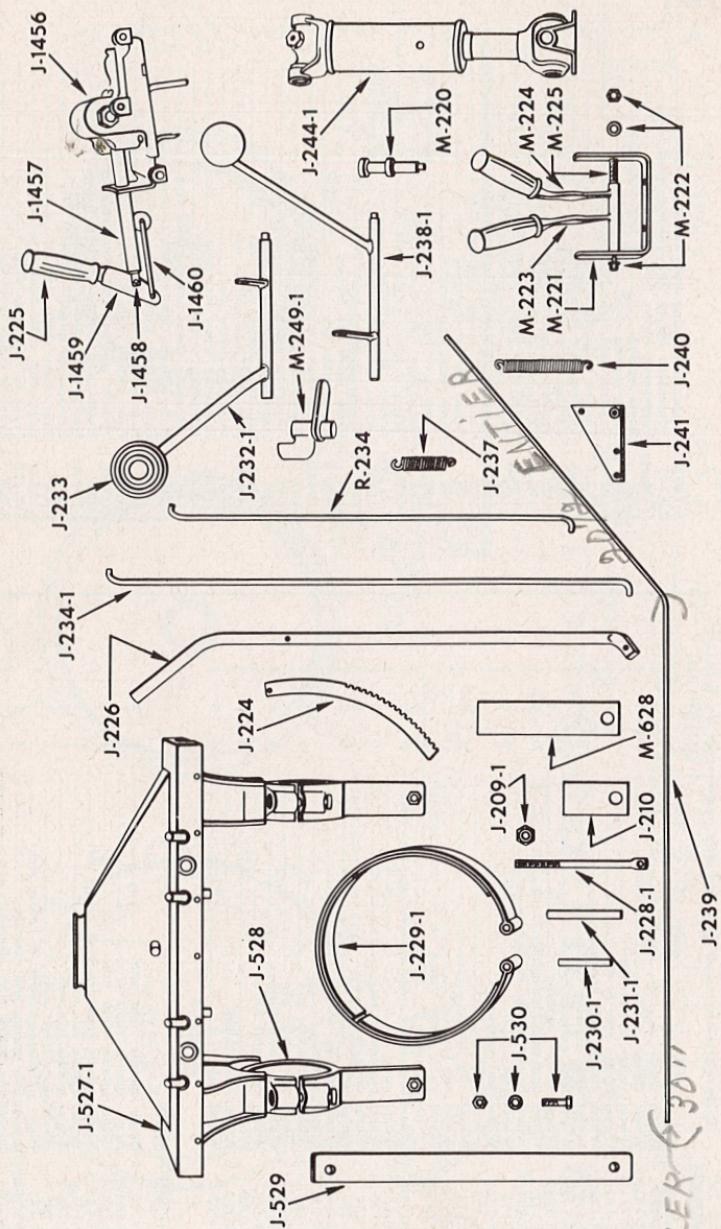
Parts referred to note 2 were used after tractor serial No. E-1500-S

Parts referred to note 3 were used after tractor serial No. E-2150-5

WHEEL

	J5	SW	RR	J5	SW	RR
J-170 Wheel assy	6	6	4	6	2	2
R-170 Wheel						
R-1838 Wheel flange center sleeve		4	4	R-1242 Suspension spring link bushing large	8	8
R-1316 Wheel flange bolt & nut		2	2	R-1243 Suspension spring link bushing small	8	8
R-1839 Wheel flange bolt bushing		3 4		Bogie spring		
R-1301 Wheel mud excluder	6	6	4	R-203 Tandem axle right Note 1	1	1
J-171 Wheel mud excluder				J-192 Tandem axle right Note 2	1	1
R-171 Wheel spacer bushing				J-192-7 Tandem axle right Note 3	1	1
R-1852 Wheel mud excluder rubber	6	6	4	J-193 Tandem axle left Note 1	1	1
R-172 Wheel mud excluder rubber				J-193-A Tandem axle left Note 2	1	1
R-173 Wheel seal	6	6	4	J-193-7-A Tandem axle left Note 3	1	1
R-1302 Wheel seal support				J-196 Cross shaft sleeve outer Note 1	1	1
R-173 Wheel seal				J-197 Cross shaft sleeve bearing Note 1	1	1
J-174 Wheel cup inner	6	6	4	J-198 Cross shaft sleeve inner note 1	1	1
R-174 Wheel cup				J-198-4 Cross shaft grease retainer note 1	8	8
J-175-8 Wheel cone inner (used on 1 3/16" spindle)	6	6	4	J-198 Cross shaft stop washer Note 1	4	4
J-175-8 note 1 and 2 (used on 1 1/4" spindle) note 3	6	6	4	J-199 Cross shaft nut Note 1	4	4
M-753 Wheel cone inner (used on 1 1/4" spindle) note 3	6	6	4	J-142 Cross shaft bearing cone Note 2	8	8
J-175-A Wheel cone				J-143 Cross shaft bearing cup Note 2	8	8
M-753 Wheel cone				J-212 Grease retainer outer Note 2	4	4
J-176 Wheel cup outer	6	6	4	R-212 Grease retainer outer		
J-177 Wheel cone outer				J-213 Grease retainer seal Note 2	8	8
J-179 Wheel nut	6	6	4	J-214 Grease retainer inner Note 2	8	8
R-198 Wheel spindle washer				J-179 Cross shaft nut Note 2	4	4
R-179 Wheel nut	6	2	2	R-179 Cross shaft nut Note 2	4	4
J-180 Wheel nut cotter pin	6	6	4	J-194-2 Cross shaft nut cotter pin Note 2	4	4
R-180 Wheel nut cotter pin				J-187 Adjusting screw nut & tube	2	2
J-181 Wheel cap with fitting	6	6	4	J-188 Adjusting screw	2	2
R-181 Wheel cap with fitting				J-189 Adjusting screw lock nut	2	2
J-182 Wheel tire	6	6	4	R-194-0 Adjusting screw and yoke	2	2
R-182 Wheel tire (solid)				R-194-1 Adjusting yoke bolt & nut	2	2
J-183 Wheel tube	6	6	4	M-161 Adjusting screw lock nut	2	2
				R-194-3 Adjusting screw lock nut	2	2
				J-146 Adjusting screw housing	2	2
				J-186-A Adjusting screw housing lock ring	2	2
				J-190 Rear spindle plate	2	2
				J-191 Rear spindle bolt & nuts	2	2
				R-191 Rear spindle and adjuster unit	8	8
				R-194-6 Replaceable spindle (spindle 1 3/16") Note 2	4	4
				J-200 Replaceable spindle (spindle 1 1/4") Note 3	4	4
				R-200-A Rear cross shaft Note 1	1	1
				J-208-7 Rear cross shaft Note 2	1	1
				J-208-8 Front & rear cross shaft	2	2
				R-205 Front & center cross shaft	2	2
				J-208-R Rear cross shaft	1	1
				J-208-T Tandem & bogie bearing shim	as required	
				J-1242 Suspension spring link bushing large	8	8
				J-1243 Suspension spring link bushing small	8	8

CONTROL PARTS



CONTROL PARTS

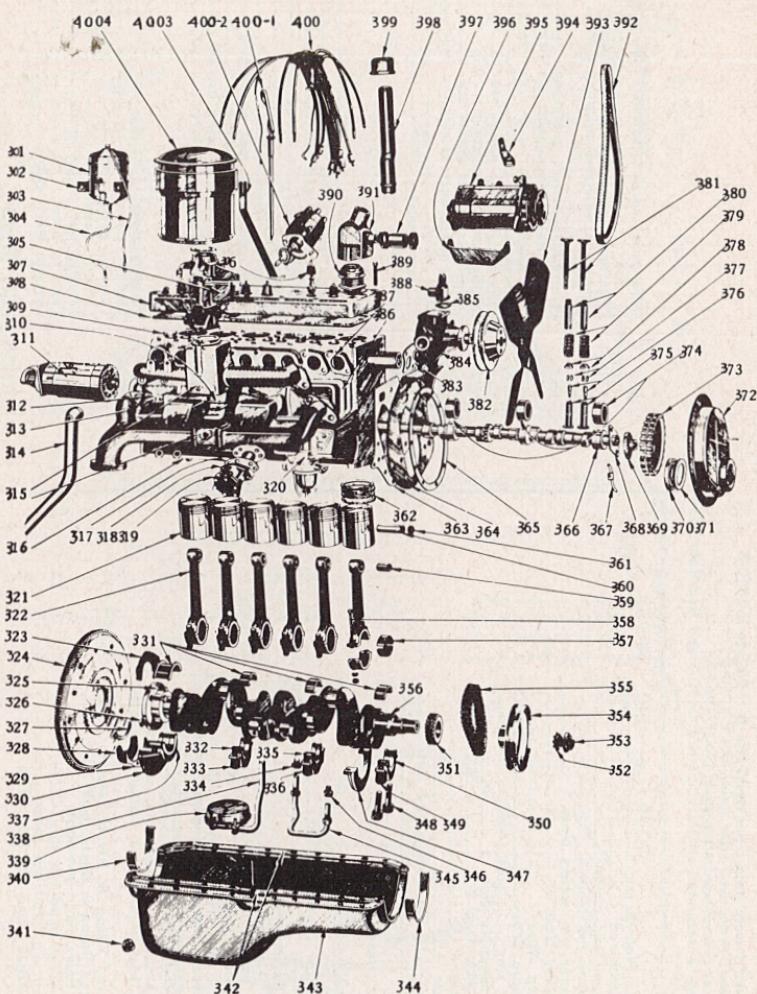
Parts referred to Note 1 were used from serial No. E-1576-S to E-2050-S

Parts referred to Note 2 were used after serial No. E-2050-S
Parts referred to Note 3 were used after serial No. E-1964-S

Parts referred to note 4 were used after serial No. E-2450-S and Red Ram A-5013.

TRANSMISSION

	J5	SW	RR	J5	SW	RR
GEARSHIFT						
J-215.2	Gearshift lever Note 1	1	1	J-530	Differential carrier stiffener bolt, lockwasher & nut	2
J-216.1	Gearshift control rod	1	1	J-531	Differential carrier assembly bolt & lockwasher	2
J-217	Gearshift control rod clevis	1	1	J-531-A	Differential carrier assembling bolt & lockwasher	16
J-218.2	Gearshift selector rod Note 1	1	1	Note 4	Differential carrier Note 4	16
J-218.3	Gearshift selector rod spring Note 1	1	1	J-532	Differential carrier gasket set	16
J-145.6	Gearshift housing Note 2	1	1	J-532-A	Differential carrier gasket set Note 4	1
J-145.7	Shifter housing Note 2	1	1	J-521	Differential cover	1
J-145.8	Shifter rod Note 2	1	1	R-521	Differential cover	1
J-145.9	Shifter rod O ring	1	1	J-522	Differential cover gasket set	1
J-146.0	Shifter lever assembly Note 2	1	1	R-522-A	Differential cover Note 4	1
J-220	Shifter lever rod Note 2	1	1	R-522	Differential cover gasket set	1
M-221	Selector extension	3		J-523	Differential cover assembling bolt	24
M-222	Shifter bracket	1		J-524	Filler plug	23
M-223	Shifter bracket bolt, flat washer and nut	1	1	J-525	Oil level gauge	1
M-224	Reverse lever	1	1	J-526	Drain plug	1
M-225	Forward lever	1	1			1
	Forward lever spring	1	1			1
CLUTCH						
J-232	Clutch pedal	1	1	J-232	Clutch pedal	1
J-233	Clutch pedal Note 3	1	1	J-233	Clutch pedal pad	1
J-234	Clutch rod	1	1	R-234	Clutch rod	1
J-234.1	Clutch rod	1	1	J-234.2	Clutch rod Note 3	1
J-235	Clutch pedal bolt, nut & washer	1	1	J-236	Clutch rod return spring	1
J-236	Clutch rod return spring bracket	1	1	J-237	Clutch rod return spring bracket	1
J-237	Clutch release fork lever	1	1	M-239.1	Clutch release fork lever	1
M-239.1	Clutch release fork lever	1	1			1
THROTTLE						
J-238	Throttle pedal	1	1	J-238	Throttle pedal	1
J-238.1	Throttle pedal Note 3	1	1	J-239	Throttle pedal rod	1
R-239	Throttle pedal rod	1	1	J-240	Throttle rod return spring	1
J-241	Throttle lever	1	1	J-243	Throttle lever swivel	1
J-243	Throttle lever swivel	1	1			1
PROPELLER SHAFT						
J-244.1	Propeller shaft assembly	1	1			1
R-244	Propeller shaft assembly	1	1			1
J-245	Universal joint repair package (at transmission)	1	1			1
M-245	Universal joint repair package (at differential)	1	2			2
J-246	Propeller shaft "U" bolt, nut & washer	4	4			4
DIFFERENTIAL						
J-257	Differential carrier assembly	1	1			1
J-257.1	Differential carrier assembly Note 3	1	1			1
J-258	Differential bearing adjuster lock bolt	2	2			2
J-259	Differential carrier stiffener	1	1			4



ENGINE

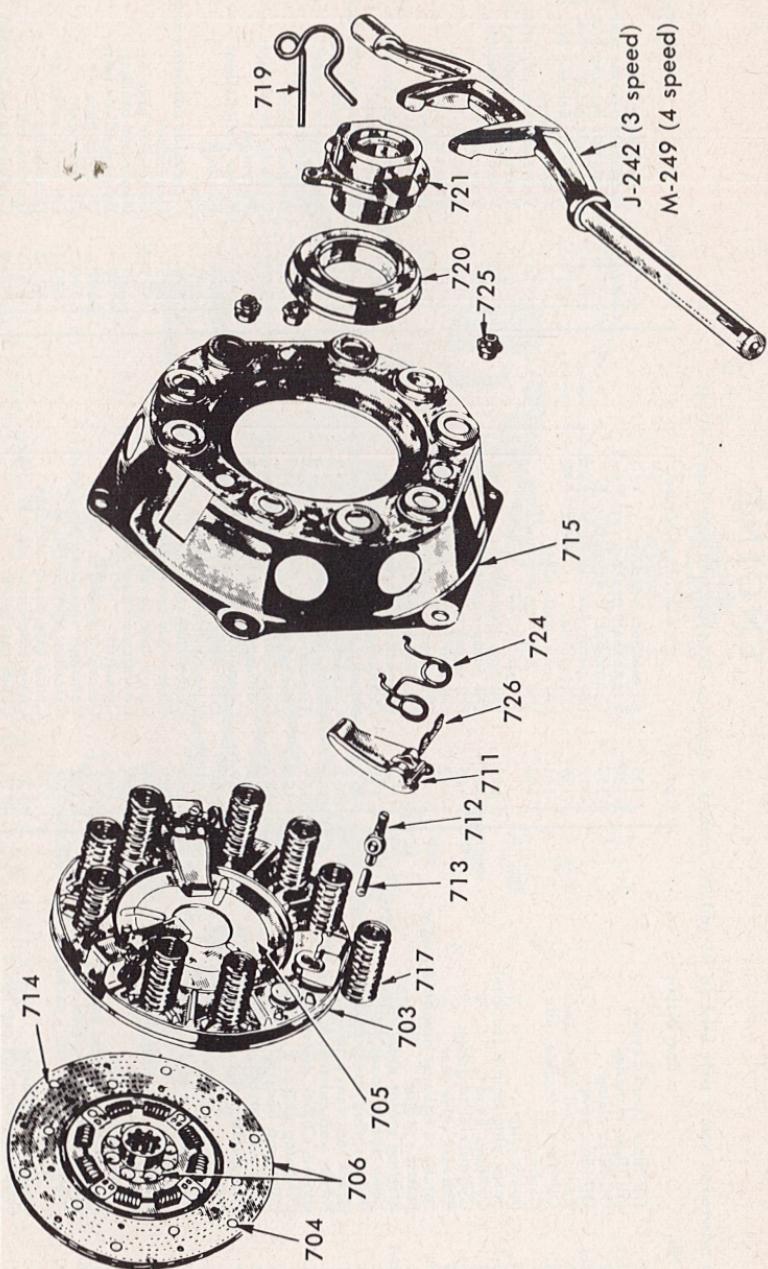
ENGINE

Parts referred to note 1 were used on J-5 and SW starting at serial no. E-2450-S and Red Ram A-5014.

Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
J-301	Oil filter (sealed type)	J-335	Crankshaft bearing	J-373	Camshaft sprocket
J-301-1	Oil filter cartridge	J-336	Crankshaft bearing cap No. 2	J-374	Camshaft bearing assembly
J-302	Oil filter clamp	J-337	Crankshaft bearing No. 4	J-374-1	Camshaft bearing No. 1
J-302-1	Oil filter strap	J-338	Oil pump suction pipe	J-374-2	Camshaft bearing No. 2
J-303	Engine to oil filter tube	J-339	Oil strainer	J-374-3	Camshaft bearing No. 3
J-304	Oil filter to engine tube	J-341	Oil pan drain plug	J-375	Valve tappets
J-305	Carburetor	J-342	Oil pan gasket package (incl. J-340 and J-344)	J-376	Valve tappets adjusting screw
J-306	Spark plug	J-343	Oil pan assembly	J-377	Valve spring retainer lock
J-306-1	Spark plug nipple (rubber)	J-345	Oil pump outlet pipe	J-378	Valve spring retainer
J-307	Cylinder head	J-346	Oil pump outlet pipe nipple	J-379	Valve spring
J-308	Cylinder head gasket	J-347	Oil pan front end oil seal plate	J-380	Valve guide
J-309	Exhaust valve seat	J-348	Crankshaft bearing cap screw	J-381	Exhaust valve
J-310	Intake to exhaust manifold gasket	J-349	Crankshaft bearing cap No. 1	J-381-1	Intake valve
J-311	Starting motor	J-350	Crankshaft bearing	J-382	Fan pulley
J-311-A	Starting motor note 1	J-351	Crankshaft sprocket	J-383	Water pump
J-312	Valve spring cover	J-352	Crankshaft starting jaw-lock washer	J-384	Water pump repair package
J-313	Valve spring cover stud	J-353	Crankshaft starting jaw	J-385	Bypass elbow gasket
J-314	Crankcase vent pipe	J-354	Crankshaft pulley	J-386	Valve cover gasket
J-315	Intake and exhaust manifold	J-355	Timing chain	J-387	Manifold gasket
J-316	Cylinder block assembly	J-356	Crankshaft	J-388	Bypass elbow
J-317	Oil pump gasket	J-357	Connecting rod bearing package	J-389	Cylinder head stud
J-318	Oil pump body	J-358	Connecting rod bolt	J-390	Thermostat
J-319	Oil pump cover	J-359	Connecting rod bushing	J-391	Water outlet elbow
J-320	Fuel pump	J-360	Piston pin	J-392	Fan belt
J-321	Pistons	J-361	Piston pin lock ring	J-393	Fan
J-322	Connecting rods	J-362	Piston ring set	J-394	Generator adjusting strap
J-323	Rear bearing seal assembly (incl. J-327 and J-328)	J-363	Chain case cover plate gasket	J-395-A	Generator
J-324	Flywheel	J-364	Chain case cover plate	J-396	Generator note 1
J-325	Flywheel bolt	J-365	Chain case cover gasket	J-397	Generator bracket
J-326	Flywheel bolt nut	J-366	Camshaft	J-398	Bypass elbow hose
J-329	Rear bearing oil seal gasket	J-367	sprocket oil tube	J-399	Oil filler pipe
J-330	Crankshaft rear bearing cap	J-368	Camshaft sprocket thrust plate	J-400	Oil filler cap
J-331	Crankshaft bearing package (for all journals)	J-369	Camshaft sprocket hub	J-400-1	Oil level indicator
J-332	Crankshaft bearing	J-370	Chain case cover oil seal	J-400-2	Distributor
J-333	Crankshaft bearing cap No. 3	J-371	Chain case cover oil seal gasket	J-400-3	Ignition coil
J-334	Oil pump outlet pipe nipple	J-372	Chain case cover	J-400-4	Carburetor air cleaner
				J-400-5	Air cleaner hose (flexible)

Saint-X 3/4 X 1/4 machine

CLUTCH



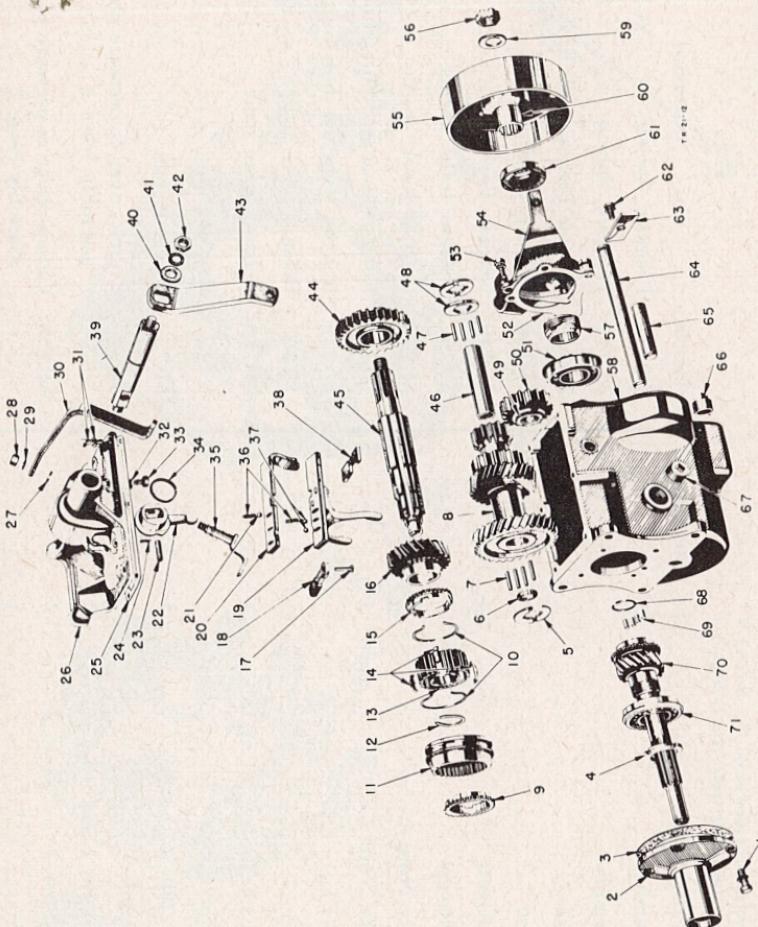
EXPLODED VIEW

CLUTCH

Parts referred to note 1 were used before serial No. E-2052-S
 Parts referred to note 2 were used after serial No. E-2052-S

Part No.	Description	J-5	SW	RR	Part No.	Description	J-5	SW	RR
S-701	Housing assembly	1	1		J-717	Pressure Spring		9	9
M-701	Housing assembly		1		M-717	Pressure Spring			9
J-703	Pressure Plate	1	1		M-719	Release bearing pull back spring	1	1	1
M-703	Pressure Plate		1		M-720	Release bearing	1	1	1
J-704	Disc Facing Rivets	24	24		M-249	Release Fork	1	1	1
M-704	Disc Facing Rivets		24		J-724	Release lever spring	1	1	
J-706	Disc Assembly Note 1	1	1		M-724	Release lever spring			1
S-706	Disc Assembly Note 2	1	1		J-725	Release lever eye bolt nut	3	3	
M-706	Disc Assembly		1		M-725	Release lever eye bolt nut			3
M-711	Release lever	3	3	3	J-726	Release lever strut	3	3	
J-712	Release level eye bolt	3	3		M-726	Release lever strut			3
M-712	Release lever eye bolt		3		S-727	Housing pan	1	1	
J-713	Release lever pin	3	3		M-727	Housing pan			1
M-713	Release lever pin		3		S-728	Clutch cover & pressure plate assembly Note 1	1	1	
J-714	Disc Facing Note 1	2	2		M-728	Clutch cover & pressure plate assembly Note 2	1	1	1
M-714	Disc Facing Note 2	2	2	2	J-715	Cover	1	1	1
M-715	Cover		1		M-729	Release bearing & sleeve assembly	1	1	1

TRANSMISSION 3 SPEED



TRANSMISSION (3 SPEED) HEAVY DUTY

USED IN THE J-5 AND SW

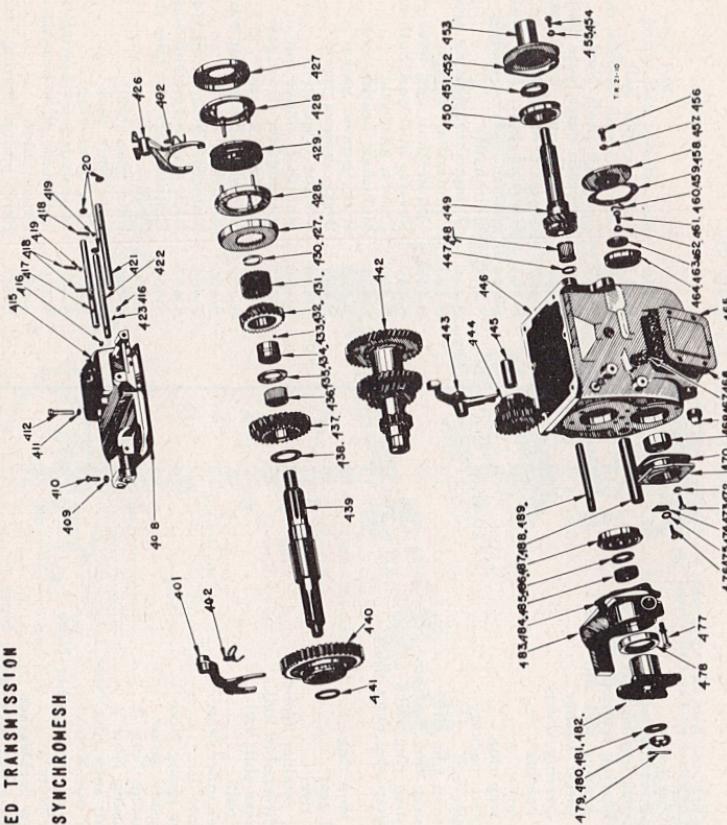
NOTE: Parts referred to Note 1 were used up to serial No. E-2050-S only
 Parts referred to Note 2 were used after serial No. E-2050-S

Part No.	Part Name	Ref. No.	Part No.	Part Name	Ref. No.
S-401	Pinion bearing retainer screw & washer	1	S-436	Rail selector ball spring	36
S-402	Drive pinion bearing retainer	2	S-437	Rail interlock ball	37
S-403	Drive pinion bearing retainer gasket	3	S-438	Gearshift rail retainer rear	38
S-404	Drive pinion bearing lock nut	4	S-439	Gearshift shaft Note 1	39
S-405	Countershaft thrust washer	5	S-440	Gearshift outer lever plain washer Note 1	40
S-406	Countershaft bearing spacer	6	S-441	Gearshift outer lever lockwasher Note 1	41
S-407	Countershaft bearing	7	S-442	Gearshift outer lever nut Note 1	42
S-408	Countershaft gear	8	S-443	Gearshift outer lever Note 1	43
S-409	Synchronizer stop ring	9	S-444	First and reverse gear	44
S-410	Spring and plate package	10 & 14	S-445	Mainshaft	45
S-411	Clutch gear sleeve	11	S-446	Countershaft bearing spacer	46
S-412	Clutch gear snap ring thin	12	S-447	Countershaft bearing	47
S-412.1	Clutch gear snap ring medium		S-448	Countershaft end washers	48
S-412.2	Clutch gear snap ring thick		S-449	Reverse idler gear bushing	49
S-412.3	Clutch gear snap ring extra thick		S-450	Reverse idler gear	50
S-413	Clutch gear	13	S-451	Mainshaft bearing rear	51
S-415	Synchronizer stop ring	15	S-452	Brake support gasket	52
S-416	Second speed gear	16	S-453	Brake support screw	53
S-417	Rail retainer rivet	17	S-454	Bearing retainer	54
S-418	Gearshift rail retainer front	18	S-456	Mainshaft flange nut	56
S-419	Second and direct shift rail	19	S-457	Speedometer drive gear	57
S-420	First and reverse shift rail	20	S-458	Transmission case	58
S-421	Rail selector ball	21	S-459	Mainshaft flange nut washer	59
S-422	Gearshift lever inner Note 1	22	S-460	Mainshaft flange	60
S-423	Lever pin Note 1	23	S-461	Mainshaft bearing oil seal	61
S-424	Lever retainer spring Note 1	24	S-462	Lock plate screw and washer	62
S-425	Gearshift housing gasket	25	S-463	Countershaft and idler shaft lock plate	63
S-426	Gearshift housing Note 1	26	S-464	Countershaft	63
J-1456	Gearshift housing Note 2	26	S-465	Idler gear shaft	65
S-427	Cam and shaft snap ring Note 1	27	S-466	Case drain plug	66
S-428	Selector lever nut Note 1	28	S-467	Case filler plug	67
S-429	Selector lever nut lockwasher Note 1	29	S-468	Mainshaft pilot bearing snap ring	68
S-430	Selector lever Note 1	30	S-469	Mainshaft pilot bearing rollers	69
S-431	Housing screw lockwasher	31	S-470	Drive pinion	70
S-432	Gearshift shaft screw lockwasher Note 1	32	S-471	Drive pinion bearing	
S-433	Gearshift shaft screw Note 1	33	S-472	Cover lock plate	
S-434	Inner lever pin lock spring Note 1	34	S-473	Transmission gasket set	
S-435	Cam and shaft assembly Note 1	35			

TRANSMISSION (4 Speeds) SYNCHROMESH

4 SPEED TRANSMISSION

SYNCHROMESH

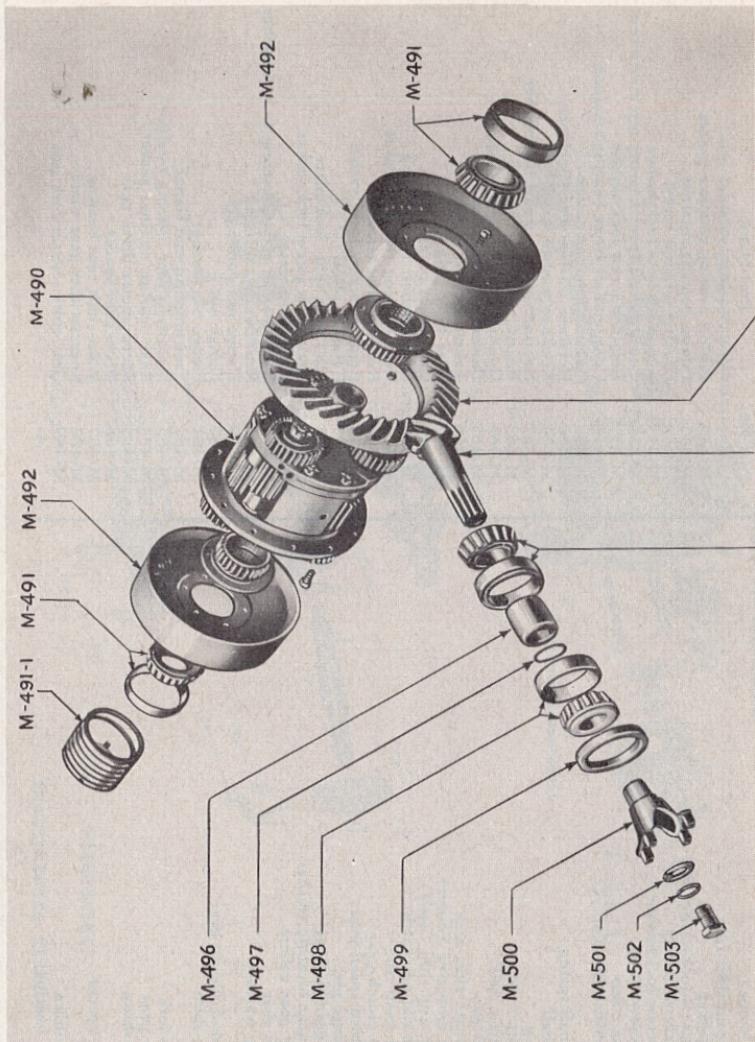


EXPLODED VIEW

TRANSMISSION (4 Speeds) SYNCHROMESH

Part No.	Part Name	Part No.	Part Name
M-401	First and second shift fork	M-451	Pinion bearing retainer nut
M-408	Case cover gasket	M-452	Pinion bearing retainer gasket
M-409	Case cover screw lockwasher	M-453	Pinion bearing retainer
M-410	Case cover screw (short)	M-454	Bearing retainer screw
M-411	Case cover screw lockwasher	M-455	Retainer screw lockwasher
M-412	Case cover screw (long)	M-456	Coupling shaft front bearing retainer screw
M-415	Gearshift case cover	M-457	Retainer screw lockwasher
M-416	Rail and interlock plunger	M-458	Coupling shaft front bearing retainer
M-417	Reverse rail	M-459	Bearing retainer gasket
M-418	Rail poppet ball spring	M-460	Retainer washer screw lockwire
M-419	Rail poppet ball	M-461	Retainer washer screw
M-420	Rail hole plug	M-462	Retainer washer screw lockwasher
M-421	Low and second rail	M-463	Bearing retainer washer
M-422	Third and direct rail	M-464	Coupling shaft front bearing
M-423	Rail interlock pin	M-465	Power take-off cover
M-426	Third and fourth shift fork	M-466	Take-off cover gasket
M-427	Synchronizer stop ring (outer)	M-467	Case filler plug
M-428	Synchronizer stop ring (ass'y)	M-468	Case drain plug
M-429	Synchronizer sliding clutch	M-469	Coupling shaft rear bearing
M-430	Synchronizer snap ring	M-470	Rear bearing retainer gasket
M-431	Synchronizer clutch gear	M-471	Rear bearing retainer
M-432	Main shaft third speed gear	M-472	Retainer screw lock washer
M-433	Bushing retainer pin	M-473	Retainer screw
M-434	Third speed gear bushing	M-474	Idler gear shaft lock plate
M-435	Third speed gear locating washer	M-475	Lock plate screw lockwasher
M-436	Second speed gear rollers	M-476	Lock plate screw
M-437	Second speed gear	M-477	Rear bearing retainer screw & lockwasher
M-438	Gear locating washer	M-478	Rear bearing oil seal
M-439	Mainshaft	M-479	Flange nut cotter pin
M-440	Low and second sliding gear	M-480	Flange nut
M-441	Rear bearing shim	M-481	Flange nut washer
M-442	Coupling shaft	M-482	Transmission end flange
M-443	Reverse shift fork	M-483	Mainshaft rear bearing retainer
M-444	Reverse idler gear	M-484	Rear bearing retainer gasket
M-445	Idler gear bushing	M-485	Speedometer drive gear
M-446	Case	M-486	Drive gear spacer
M-447	Pilot bearing spacer	M-487	Main shaft rear bearing
M-448	Pilot bearing	M-488	Reverse idler gear shaft
M-449	Main drive pinion	M-489	Gear shift reverse fork rail
M-450	Drive pinion bearing		

RING GEAR, PINION, DIFFERENTIAL & BEARING

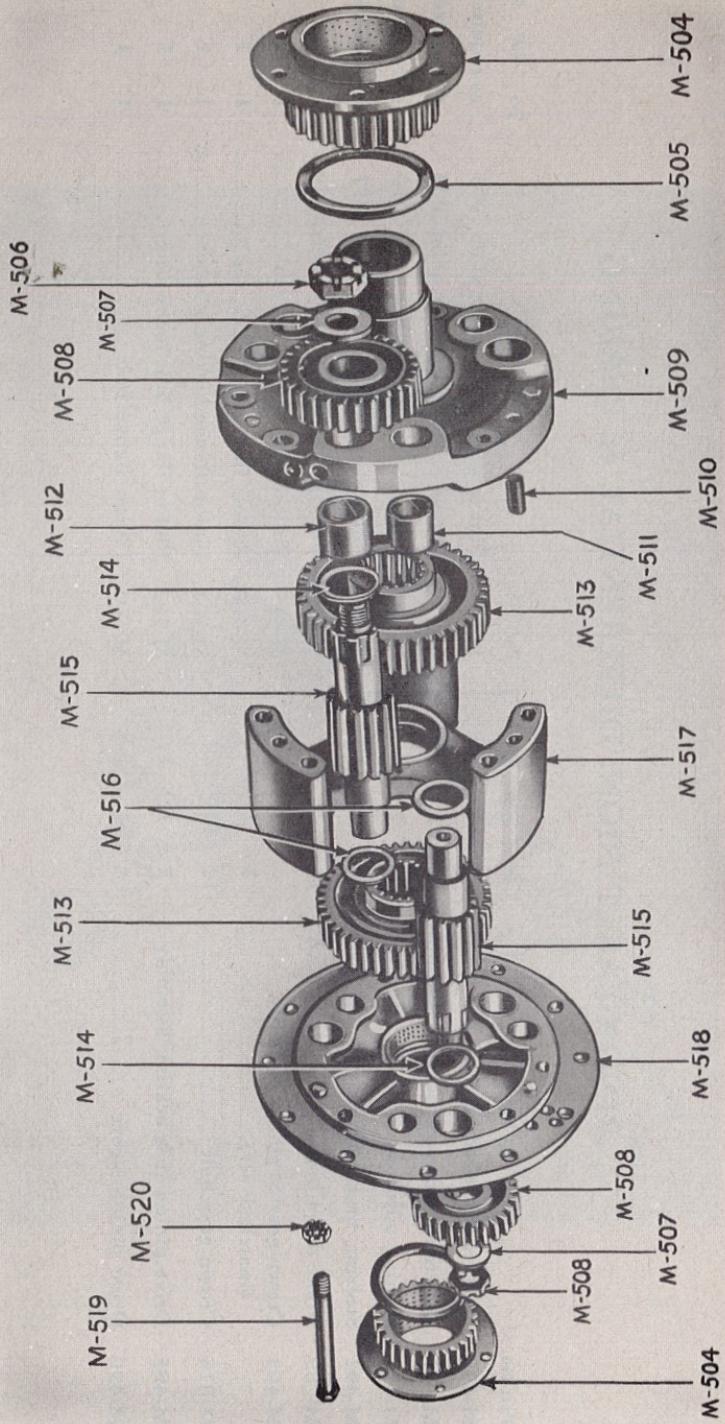


EXPLDED VIEW

RING GEAR, PINION, DIFFERENTIAL & BEARING

Part No.	Part Name	J-5	SW	RR	Part No.	Part Name	J-5	SW	RR
M-490	Differential Assembly	1	1	1	M-497	Pinion bearing adjusting shim .003 ..			
M-491	Differential carrier bearing assembly	2	2	2	M-497-1	Pinion bearing adjusting shim .005 ..			
M-491-1	Bearing adjuster	2	2	2	M-497-2	Pinion bearing adjusting shim .010 ..			
M-492	Steering brake drum	2	2	2	M-497-3	Pinion bearing adjusting shim .037 ..			
M-789	Brake drum bolt	12	12	12	M-498	Drive pinion front bearing assembly ..	1	1	1
M-493	Crown gear & pinion assembly (matched set)	1	1	1	M-499	Pinion gear housing oil seal	1	1	1
M-814	Crown gear bolt	12	12	12	M-500	Pinion flange	1	1	1
M-495	Drive pinion rear bearing assembly ..	1	1	1	M-501	Pinion flange locking washer	1	1	1
M-496	Drive pinion sleeve	1	1	1	M-502	Pinion flange bolt lockwasher	1	1	1
					M-503	Pinion flange bolt	1	1	1

DIFFERENTIAL ASSEMBLY



EXPLODED VIEW

DIFFERENTIAL ASSEMBLY

Part No.	Part Name	J-5	SW	RR	Part No.	Part Name	J-5	SW	RR
M-504	Brake drum gear	2	2	2	M-512	Differential pinion gear bushing (large)	6	6	6
M-504-1	Brake drum gear bushing	4	4	4	M-513	Axle to differential pinion gear	2	2	2
M-505	Brake drum gear thrust washer	2	2	2	M-514	Differential planetary thrust washer	6	6	6
M-506	Differential pinion nut (hex)	6	6	6	M-515	Differential pinion gear	6	6	6
M-507	Differential pinion washer	6	6	6	M-516	Differential pinion thrust washer	6	6	6
M-508	Differential planetary gear	6	6	6	M-517	Differential center (spacer)	1	1	1
M-509	Differential side case (right)	1	1	1	M-518	Differential case (left) (Crown gear carrier)	1	1	1
M-509-1	Differential center & side case bushing	3	3	3	M-519	Differential gear case bolt (hex)	6	6	6
M-510	Differential case dowel pin	6	6	6	M-520	Differential gear case bolt nut	6	6	6
M-511	Differential pinion gear bushing (small)	6	6	6					

ENGINE FUEL AND EXHAUST SYSTEMS

Part No.	Part Name	J5	SW	RR
J-540	Motor support kit	1	1	1
J-541	Muffler gasket	1	1	1
J-542	Muffler outlet pipe	2	2	2
J-543	Muffler bolt & nut	1	1	1
J-544	Muffler	1	1	1
J-545	Muffler outlet pipe spring	1	1	1
J-546	Fuel tank cap	1	1	1
J-547	Fuel tank outlet & elbow	1	1	1
R-547	Fuel tank outlet & elbow	1	1	1
J-548	Fuel line (tank to pump)	1	1	1
J-549	Fuel line to pump elbow	1	1	1
J-550	Fuel tank	1	1	1
R-550	Fuel tank & dash assembly			1
J-551	Fuel tank filler neck insulator	1	1	1
J-557	Fuel gauge (dash)	1	1	1
J-558	Fuel gauge (tank)	1	1	1
J-559	Fuel gauge gasket	1	1	1
J-560	Oil gauge (dash)	1	1	1
J-561	Oil gauge (engine)	1	1	1
J-400-6	Carburetor air horn square base	1	1	1
R-1979	Carburetor over speed plate			1
J-1161	Hand choke kit	1	1	1
J-1161-1	Hand choke wire & button	1	1	1
R-1982	Hand choke bracket			1
R-1986	Air filter bracket			1
R-1991	Air filter bracket bolt, lockwasher & nut			4
R-2041	Air filter bracket plate			1
R-2052	Air filter to engine bolt and lockwasher			2

ELECTRICAL SYSTEM

Parts referred to note 1 were used on J-5 and SW starting at serial no. E-2450-S and Red Ram A-5014.

Part No.	Part Name	J5	SW	RR
J-562	Battery	1	1	1
A-2700-12	Battery note 1	1	1	1
J-563	Battery bracket (removable part)	1	1	1
J-563-A	Battery bracket removable part note 1	1	1	1
C-2701	Battery bracket (removable part)			1
J-564	Wiring harness	1	1	1
J-565	Battery cable ground	1	1	1
J-565-A	Battery cable ground note 1	1	1	1
J-566	Battery cable negative	1	1	1
J-566-A	Battery cable negative note 1	1	1	1
J-567	Circuit breaker	1	1	1
A-2715-12	Circuit breaker note 1	1	1	1
J-1453	Circuit breaker bracket	1	1	1
J-570	Ignition switch	1	1	1
J-573	Ammeter	1	1	1
A-2750-12	Voltage divider note 1	1	1	1
J-568	Windshield wiper	1	1	1
J-568-A	Windshield wiper note 1	1	1	1
R-2735	Motor windshield wiper	1	1	1
B-2735-12	Motor windshield wiper note 1	1	1	1
J-569	Windshield wiper arm	1	1	1
J-571	Windshield wiper blade	1	1	1
J-572	Windshield wiper switch	1	1	1
J-574	Headlight (1) kit assembly including switch	1	1	1
J-574-A	Headlight (1) kit assembly including switch note 1	1	1	1
15120	Sealed beam	1	1	1
15120-12	Sealed beam note 1	1	1	1
J-575	Voltage regulator	1	1	1
J-575-A	Voltage regulator note 1	1	1	1
J-576	Distributor point set	1	1	1
J-577	Distributor condenser	1	1	1
J-578	Distributor rotor	1	1	1
J-579	Distributor cap	1	1	1
J-580	Distributor wires	1	1	1
J-582	Starter switch	1	1	1
J-1454	Headlight seat	2	2	2
J-1455	Headlight seat washer rubber	2	2	2

COOLING SYSTEM

Part No.	Part Name	J5	SW	RR
J-581	Radiator	1	1	1
J-393	Radiator fan	1	1	1
J-392	Radiator fan belt	1	1	1
J-546	Radiator cap	1	1	1
J-551	Radiator filler neck insulator	1	1	1
J-585	Water outlet elbow	1	1	1
J-587	Radiator metal hose 2"	1	1	1
R-587	Radiator metal hose 2"			1
J-588	Radiator hose 2"	2	2	2
J-589	Radiator hose clamp 2"	4	4	4
J-590	Radiator metal hose 1 1/2"	1	1	1
J-591	Radiator hose 1 1/2" x 2" long	2	2	1
M-591	Radiator hose 1 1/2" x 4"			1
J-592	Radiator hose clamp 1 1/2"	4	4	4
J-593	Temperature gauge (dash)	1	1	1
J-594	Temperature gauge (engine)	1	1	1
J-625	Heater	1	1	1
J-675	Heater bracket	1	1	1
J-676	Heater bracket bolt, lock and nut	2	2	2
A-4769	Heater hose clamp	4	4	4
J-677	Heater core	1	1	1
C-4763	Heater casing	1	1	1
J-678	Heater casing nut	2	2	2

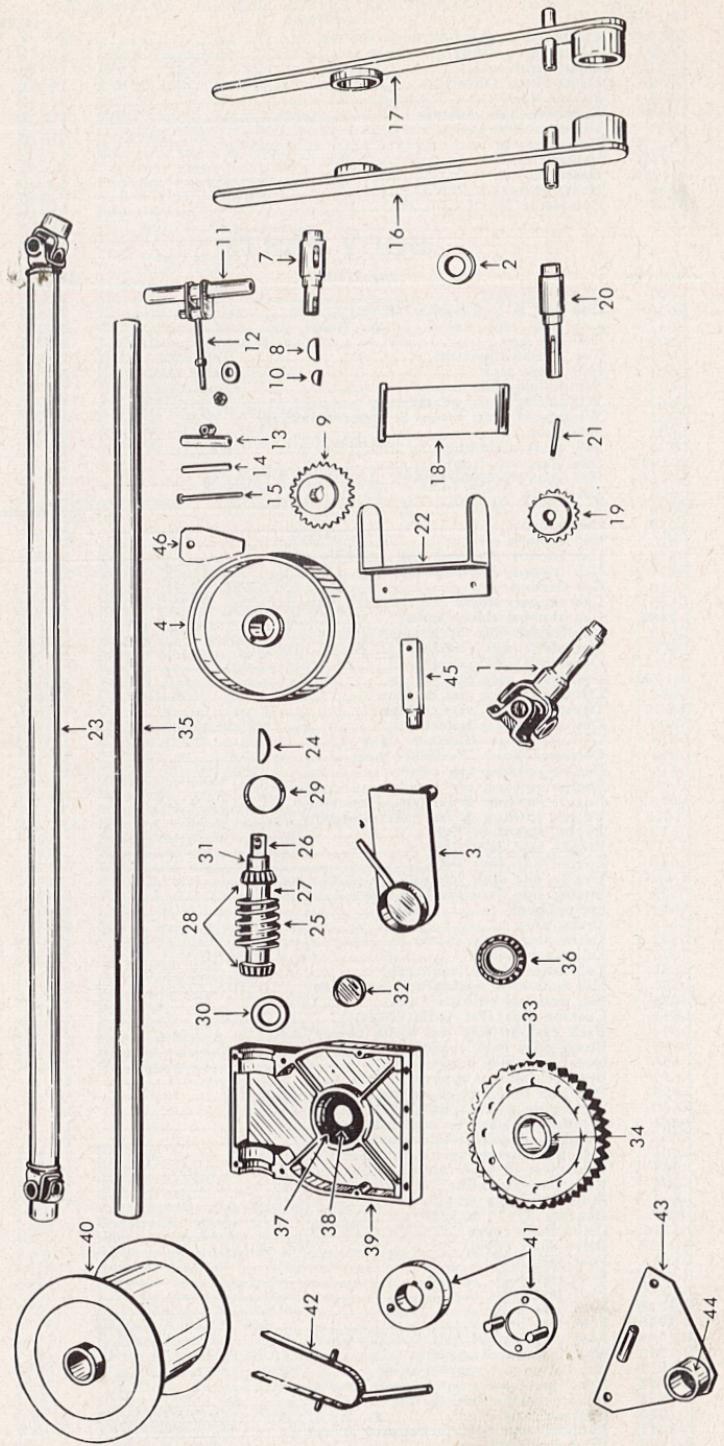
COOLING SYSTEM

Part No.	Part Name	Quantity
J-679	Casing to bracket bolt, lock and nut	4 4
J-680	Heater hose (long)	1 1
J-681	Heater stop-cock	1 1
J-682	Heater hose (short)	1 1
J-683	Heater elbow	1 1
J-684	Defroster hose adapter	2 2
J-685	Defroster hose	2 2
C-4759	Heater motor	1 1
B-4761	Impeller	1 1
A-4756	Heater switch	1 1
J-686	Heater wires	3 3
J-687	Connector	1 1

BODY PARTS

Part No.	Part Name	J5 SW RR
J-601	Cab lower part	1 1
J-636	Cab bolt & lock washer (front)	2 2
J-637	Cab bolt, lock washer & nut (rear)	2 2
J-602	Cab top part	1 1
M-844	Top cab weatherstrip	1 1
J-603	Cab hinge pins	2 2
J-604	Windshield glass	1 1
J-640	Windshield glass weatherstrip	1 1
J-641	Windshield glass lower & upper moulding	1 1
J-605	Side glass	2 2
J-642	Side glass moulding	2 2
M-1855	Side glass run (top)	2 2
M-1858	Side glass run (bottom)	2 2
J-608	Rear glass	1 1
J-644	Rear glass screws	as required
J-610	Cab support rod	1 1
J-623	Cab support spring	1 1
J-612	Cab friction disc and arm assembly	1 1
J-611	Cab friction disc plate	1 1
J-638	Cab friction disc	1 1
J-1461	Cab support sleeve	1 1
J-1462	Cab support sleeve spring	1 1
J-639	Cab friction disc flat washer & nuts	1 1
J-606	Operator's seat assembly	1 1
R-606	Operator's seat assembly	1 1
R-1980	Operator's seat plate	1 1
J-607	Operator's back rest cushion	1 1
R-607	Operator's back rest cushion	1 1
J-609	Dash & bracket assembly	1 1
J-613	Defroster hose (flexible) long	1 1
J-614	Defroster hose (flexible) short	1 1
J-615	Engine cowling top part	1 1
R-615	Engine cowling top part	1 1
J-616	Engine cowling & fan guard assembly	1 1
R-616	Engine cowling & fan guard assembly	1 1
J-617	Engine side door right	1 1
R-617	Engine side door right	1 1
J-618	Engine side door left	1 1
R-618	Engine side door left	1 1
J-621	Engine side door retainer screw	2 2
J-624	Spring hook	1 1
J-631	Drain plug	1 1
J-632	Drain plug screw	1 1
J-627	Oil pan insulator	1 1
J-650	Cab lower part (3 man cab)	1
J-651	Cab bolt lock washer and nut (side)	8
J-652	Side seat less cushion	2
J-653	Cushion side seat (with cover)	2
J-654	Back cushion side seat (with cover)	2
J-655	Cover only back cushion side seat	2
J-656	Cover only side seat cushion	2
J-657	Bracket side seat support	4
J-658	Side seat retainer bolt & nut	4
J-660	Cab upper part (3 man cab)	1
J-661	Windshield glass (3 man cab)	1
J-662	Windshield glass retainer rubber	1
J-666	Side glass moulding	2
J-663	Rear glass (3 man cab)	1
J-664	Rear glass moulding	1
J-665	Moulding bolts & nuts	14
J-667	Doortite 5 3/32" x 3 1/8"	
J-1236	Drive shaft cover	1 1
R-1236	Drive shaft cover	1 1
J-1237	Foot rest R.H.	1 1
R-1237	Foot rest R.H.	1 1
J-1238	Foot rest L.H.	1 1
R-1238	Foot rest L.H.	1 1
R-1948	Foot rest bracket	2
R-1949	Foot rest bracket bolt & lockwasher	2
R-1950	Head protector assembly	1
R-1951	Head protector support shaft	2
R-1952	Head protector support shaft snap ring	4
R-1953	Head protector bolt & nut	2
R-2070	Radiator grill	1
R-2071	Radiator grill bolt, lockwasher & nut	2
R-1974	Draw bar pin	1

WINCH

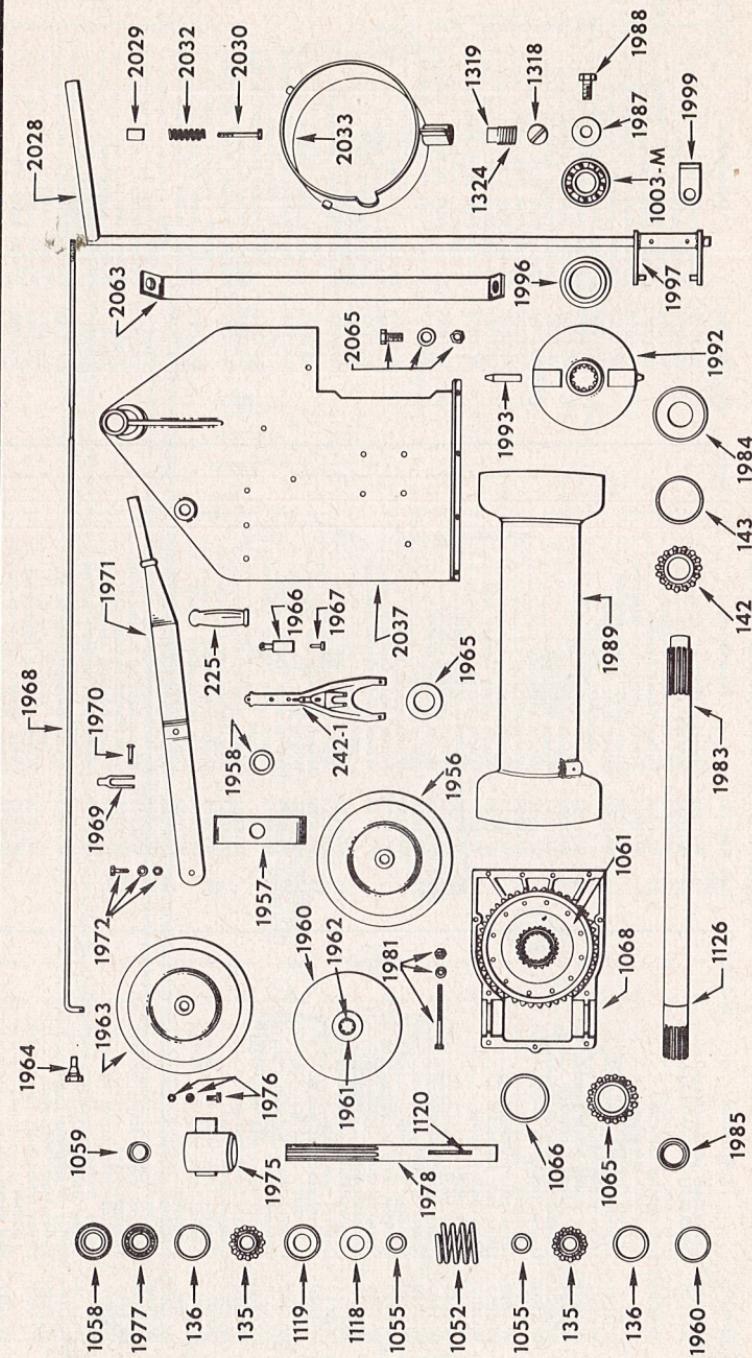


WINCH

Parts referred to note 1 were used after winch serial No. W-605

Ref. Part No.	Description	W-2 W-5	Ref. Part No.	Description	W-2 W-5	Ref. Part No.	Description	W-2 W-5
W-1095	Crankshaft pulley flange	1 1	20	W-1041 Sprocket shaft key	1	W-1075-1	Cable drum (narrow) note 1	1
W-1100	Crankshaft pulley flange bolt & nut	5 5	21	W-1042 Sprocket shaft bearing	2	W-1076	Cable drum (wide)	1
1	W-1000-1 Drive pulley shaft and U-joint pulley assembly	1 1	22	W-1044 Pulley frame bracket	1	W-1076-1	Cable drum (wide) note 1	1
J245	U-joint pulley key	1	23	W-1045 Bracket, bolt, nut & washer	4	W-1077	Drum shaft to clutch key	2 1
W-1001	U-joint bolt & washer	4	24	W-1046 Drum shaft inside bracket & assembly	2	W-1078	Clutch shaft to clutch assembly	2 1
W-1002	Drive pulley shaft key	1	25	W-1050 Drive shaft & U-joints assembly	1	W-1079	Clutch assembly	2
2	W-1003-1 Drive pulley shaft key	1	26	W-1051 Drive shaft to worm shaft key	1	W-1079-1	Clutch assembly note 1	2
3	W-1004-1 Drive pulley shaft bearing	1	27	W-1052 Worm shaft key	1	W-1080	Clutch disc & pin	2
W-1005	Bracket bolt, nut & washer	2	28	W-1053 Worm shaft key	1	W-1081	Clutch release spring	4
W-1103	Grease fitting $\frac{1}{4}$ in. — 28 short straight	1	29	W-1054 Worm shaft key	1	42	Clutch fork R.H.	1
4	W-1010 Drive pulley lower belt assembly	1	30	W-1055 Worm shaft leather seal	1	W-1082-1	Clutch fork R.H. note 1	1
W-1011	Drive pulley upper	1	31	W-1056 Worm spacer	2	W-1083-1	Clutch fork L.H.	1
W-1012	Drive pulley upper	1	32	W-1057 Worm bearing cone	2	W-1084	Clutch fork pivot bolt, nut & washer	1
7	W-1013 Pulley shaft key	1	33	W-1058 Worm bearing seal	2	43	W-1085 Drum shaft to frame bracket	2
8	W-1014 Pulley shaft bearing	2	34	W-1059 Seal bushing	1	W-1085-1	Drum shaft to frame bracket note 1	2
19	W-1039 Spacer washer	1	35	W-1117 Worm spacer bushing 1.3/16"	1	44	W-1086 Bracket bushing	4
10	W-1040 Sprocket 19 teeth	1	36	W-1118 Worm shaft thrust bearing	1	W-1086-1	Bracket bushing note 1	2
W-1017	Sprocket key	1	37	W-1119 Worm shaft thrust bearing	1	W-1131	Frame bracket L.H.	1
W-1018	Sprocket chain	1	38	W-1121 Worm gear rivet	1	W-1132	Frame bracket R.H.	1
W-1018-R	Sprocket chain	1	39	W-1113 Worm shaft nut	12	W-1133	Frame bracket mudguard brace	2
W-1112	Sprocket chain connecting link	1	40	W-1114 Worm shaft center pin	1	W-1135	Frame bracket bolt & nut	10
W-1019	Control arm connecting link	1	41	W-1061 Worm gear cap	1	W-1135-A	Frame bracket mudguard brace bolt & nut (rear)	2
W-1020	Control arm bolts, nut & washer	1	42	W-1062 Worm gear flange (splined)	1	W-1134	Frame bracket cross rod & nut	1
W-1021	Control shaft	1	43	W-1063 Worm gear rivet	1	W-1091	Cable pulley bracket	1
W-1025	Control lever	1	44	W-1064 Cable drum shaft	1	W-1092	Pulley bracket bolt & lock-washer	2
11	W-1025 Control lever and arm (rear)	1	45	W-1064-1 Cable drum shaft note 1	1	W-1097	Pulley clevis & pin	1
W-1026	Control lever bolt & nut	1	46	W-1124 Cable drum shaft	1	T-960	Cable pulley assembly with bearing	2
12	W-1027 Control lever yoke	1	47	W-1065 Gear flange, bearing cone	2	T-961	Bearing only	2
W-1027-1	Control lever yoke bolt & nut	1	48	W-1123 Gear flange, bearing cup	2	T-962	Pulley frame	2
W-1028	Control lever yoke bolt & nut washer	2	49	W-1067 Gear flange, bearing rubber plug	1	T-963	Pulley axle	2
46	W-1093 Stabilizer	1	50	W-1068 Gear flange, bearing seal	2	T-964	Pulley bearing seal	4
13	W-1108 Stabilizer	1	51	W-1069 Worm housing bolt & nut (set)	1	T-965	Pulley bearing cup	4
14	W-1032 Yoke to pulley frame bushing	1	52	W-1069-1 Worm housing bolt & nut (set)	1	T-966	Pulley bearing cone	2
15	W-1033 Bushing sleeve	1	53	W-1125 Worm housing filler plug	1	W-1096	Cable U-bolts & nuts	2
16	W-1034 Bushing bolt, nut & washer	1	54	W-1126 Drum shaft lock	2	W-1099	Winch cable	2
17	W-1035 Pulley frame	1	55	W-1075 Cable drum brake	2	W-1088	Winch cable clip	2
W-1036	Pulley & sprocket side plate	1	56	W-1075-1 Cable drum brake bolt & nut	1	W-1094	Cable drum brake	2
W-1107	Pulley frame bolt, nut & lock washer	3	57	W-1075-2 Cable drum	1	W-1094-1	Cable drum brake bolt & nut	1
18	W-1037 Bolt guard	2	58	W-1075-3 Cable drum (narrow)	1			
9	W-1016 Sprocket 25 teeth	1	59	W-1075-4 Cable drum	1			

WINCH W-6



WINCH W-6

Part No.	Part Name	Quantity	Part No.	Part Name	Quantity
W.1954	Crankshaft pulley	1	W.1983	Cable drum shaft	1
W.1955	Drive pulley belt	1	J-143	Cable drum shaft bearing cup	2
W.1956	Drive pulley inner	1	J-142	Cable drum shaft bearing cone	2
W.1957	Drive pulley release plate	2	W.1984	Cable drum shaft seal	2
W.1958	Drive pulley washer	2	W.1985	Drum shaft lock sleeve	1
W.1959	Belt idler assembly	1	W.1126	Drum shaft lock ring	1
W.1960	Belt idler disc	1	W.1003-M	Drum shaft ball bearing	1
W.1961	Belt idler disc ball bearing	1	W.1987	Drum shaft washer	1
W.1962	Belt idler splined bushing	1	W.1988	Drum shaft bolt	1
W.1963	Drive pulley outer	1	W.1989	Cable drum assembly	1
W.1964	Drive pulley lock screw	1	W.1992	Drum clutch assembly	1
W.1965	Drive pulley thrust bearing	1	W.1993	Drum clutch pin	2
W.1966	Drive pulley fork pivot	1	W.1996	Drum clutch drag	1
W.1967	Drive pulley fork pivot bolt	1	W.1997	Drag fork	1
J-242-1	Drive pulley fork	1	W.1998	Drag fork bolt & nut	2
W.1968	Drive pulley control rod	1	W.1999	Control lever bracket	1
W.1969	Control rod clevis	1	M.735	Control lever bracket, bolt, lockwasher & nut	1
W.1970	Control rod clevis pin	1	W.2028	Drum clutch control lever	1
W.1971	Control lever handle	1	W.2029	Control lever lock pin	1
W.1972	Control lever handle bolt & nut	1	W.2030	Lock pin bolt	1
J-225	Control lever handle grip	1	W.2032	Lock pin release spring	1
W.1973	Drive pulley cover	1	W.2033	Clutch cover	1
M-735	Drive pulley cover bolt, lockwasher & nut	2	W.2034	Clutch cover bolt	3
W.1975	Worm shaft bearing support	1	W-1318	Cable drum brake screw	1
W.1976	Worm shaft bearing support bolt, lockwasher & nut	2	W.1324	Cable drum brake spring	1
W.1977	Worm shaft support bearing	1	W.1319	Cable drum brake shoe	1
W.1058	Worm shaft support bearing seal	1	W.2035	Winch bracket R.H.	1
W.1059	Seal bushing	1	W.1087	Winch bracket bolt, lockwasher & nut $\frac{3}{8} \times 1\frac{1}{4}$ "	3
W.1978	Worm shaft	1	W-2036	Winch bracket bolt, lockwasher & nut $\frac{3}{8} \times 1\frac{1}{4}$ "	2
W.1120	Worm to shaft key	1	J-651	Winch bracket to fan guard bolt, lockwasher & nut	1
W.1055	Worm spacer	2	W.2037	Winch bracket L.H.	1
M-135	Worm bearing cone	2	W.1087	Winch bracket bolt, lockwasher & nut	4
M-136	Worm bearing cup	2	W.2038	Cable holder bolt	1
W.1118	Worm thrust bearing	1	M-839	Winch cable	1
W.1119	Worm thrust bearing spacer	1	W-1089	Winch cable clip	1
W.1960	Worm bearing cap	1	W.2039	Winch cable hook	1
W.1061	Worm gear	1	W.2040	Butt plate rollers (including cups)	2
W.1122	Worm gear flange	1	T-966	Butt plate roller bearing cone	4
W.1065	Gear flange bearing cone	2	T-965	Butt plate roller bearing cup	4
W.1066	Gear flange bearing cup	2	T-964	Butt plate roller bearing	4
M-141	Gear flange bearing seal	1	W-2042	Roller shaft	2
W.1068	Worm housing assembly	1	W.2043	Butt plate bolt	2
W.1981	Worm housing bolt and nut	11	W.2044	Butt plate spacer	2
W.1123	Worm housing rubber plug	1	W.2053	Winch support brace	2
W.1070	Housing filler plug	1	W.2055	Winch support brace bolt, lockwasher & nut	2
			W.2027	Butt plate shaft	

HYDRAULIC SYSTEM

USED ON RED RAM TRACTOR

Part No.	Part Name	Quantity
R-2045	Hydraulic pump assembly	1
R-2046	Pump to drive coupler	1
R-2058	Valve to pump hose	1
R-2048	Pump inlet reducer	1
R-2049	Pump inlet hose nipple	1
R-2050	Pump drive shaft	1
R-2051	Pump bracket	1
W-1087	Pump bracket bolt, lockwasher & nut	2
R-2053	Pump to bracket nut and lockwasher	2
M-879	Pump outlet reducer	1
R-2055	Control valve assembly	1
R-2056	Valve bracket	1
R-2057	Valve bracket bolt, lockwasher & nut	3
R-2048	Valve inlet & outlet reducer	2
R-2059	Valve to oil tank elbow	1
R-2060	Valve to oil tank hose	1
M-873	Valve to oil tank hose collar	2
R-2061	Valve to arch outlet, close nipple	1
R-2062	Valve to arch outlet tee connector	1
M-869	Valve to arch outlet elbow (left cylinder)	1
S-1120	Valve outlet hose reducer	2
S-1125	Valve outlet hose swivel connector	2
R-2064	Valve to piling arch cylinder hose	2
M-879	Valve to fork lift hose reducer	2
M-876	Valve to fork lift hose swivel connector	2
R-2066	Valve to fork lift cylinder hose (top)	1
R-2067	Valve to fork lift cylinder hose (bottom)	1
R-2068	Hose bracket	1
M-735	Hose bracket bolt lockwasher & nut	1
R-2069	Oil tank assembly	1
M-735	Oil tank bolt, lockwasher & nut	1
J-546	Oil tank cap	1
R-2072	Oil tank to pump hose	1
M-873	Oil tank to pump hose collar	1
R-2073	Piling arch cylinder assembly	2
R-2074	Cylinder housing	2
S-1142	Cylinder stuffing box	2
R-2075	Piston assembly	2
R-2076	Cylinder guide bushing	2
R-2077	Cylinder compression ring	4
R-2078	Cylinder O ring	2
R-2079	Cylinder packing felt	2
R-2080	Cylinder packing leather	4
R-2082	Cylinder attaching bolt & nut (upper)	2
R-2083	Cylinder attaching bolt & nut (lower)	2
R-2084	Fork lift cylinder assembly	1
R-2085	Cylinder housing	1
R-2086	Cylinder stuffing box	1
R-2087	Cylinder piston assembly	1
R-2088	Cylinder guide bushing	1
M-898	Cylinder piston O ring $2\frac{5}{8}$ x $2\frac{1}{4}$ "	1
R-2089	Cylinder O ring $1\frac{7}{8}$ " x $1\frac{1}{2}$ "	2
M-897	Cylinder piston compression ring	2
R-2090	Cylinder packing felt	1
R-2091	Cylinder packing leather	2
R-2092	Cylinder elbow	1
R-2093	Fork lift cylinder bolt & nut (upper)	1
R-2094	Fork lift cylinder bolt & nut (lower)	1

PILING ARCH

R-2095	Piling arch assembly	1
R-2096	Piling arch cross shaft	1
R-1592	Piling arch cross shaft lock ring	2
R-2070	Radiator grill	1
R-2071	Radiator grill bolt, lockwasher & nut	2
R-2097	Fork lift assembly	1
R-2098	Fork lift bolt & nut	2
J-180	Fork lift cotter pin	2

HYDRAULIC PUMP ASSEMBLY

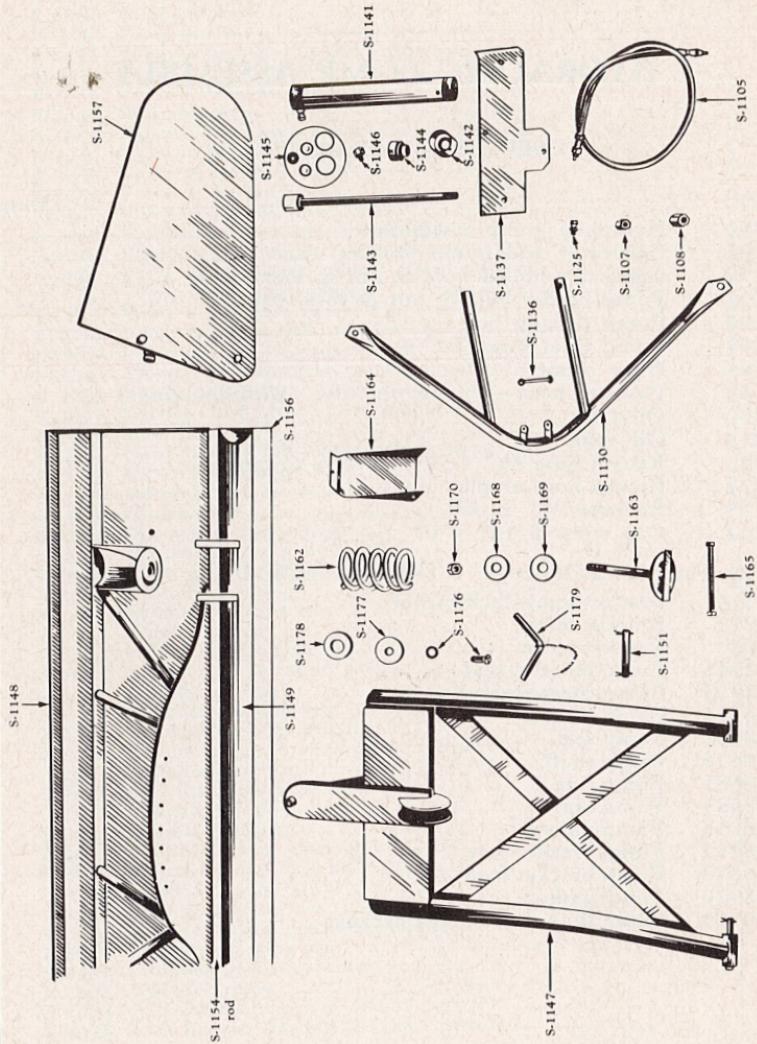
USED ON BOMBARDIER SW

Part No.	Description	Quantity
S-1850	Hydraulic pump assembly	1
S-1192	Generator and pump bracket	1
S-1193	Generator holder bolt & nut & lockwasher	1
S-1194	Pump holder bolt & nut & lockwasher	1
S-1196	Pump driving belt	1
S-1197	Pump inlet hose 5/8" x 9"	1
S-1198	Hose clamp	2
S-1199	Pressure hose — pump to valve (with couplings)	1
S-1200	Oil tank	1
S-1215	Oil tank cap	1
S-1220	Return hose 5/8" x 59" — valve to tank	1
S-1221	Return hose nipple	1
S-1223	Reducer 3/4" x 3/8"	2
S-1224	Cap screw 5/16" x 1"	1

Service Parts Breakdown for S-1850 Hydraulic Pump Assembly

120214	Bracket screw lockwasher
122017	Bracket screw
180078	Bracket screw
1732946	Pump oil resv. seal
1732953	Pump control valve spring
1734913	Pump oil seal
1738662	Pump seal
1738679	Pump shaft
1738681	Pump ring
1738683	Pump seal
1826056	Pump pulley
1826057	Pump bracket rear
1826058	Pump bracket front
1852920	Pump gasket
1879353	Pump snap ring & plug package

SCRAPER



BOMBARDIER SCRAPER SPARE PARTS LIST

NOTES: Parts referred to Note 1 were used before scraper serial no. NW.97

Parts referred to Note 2 were used starting at and after serial no. NW-973
Parts referred to Note 3 were used before serial no. NW-173

Parts referred to Note 3 were used before scraper and affor serial no. N.W.175
Parts referred to Note 4 were used starting at and after serial no. N.W.175

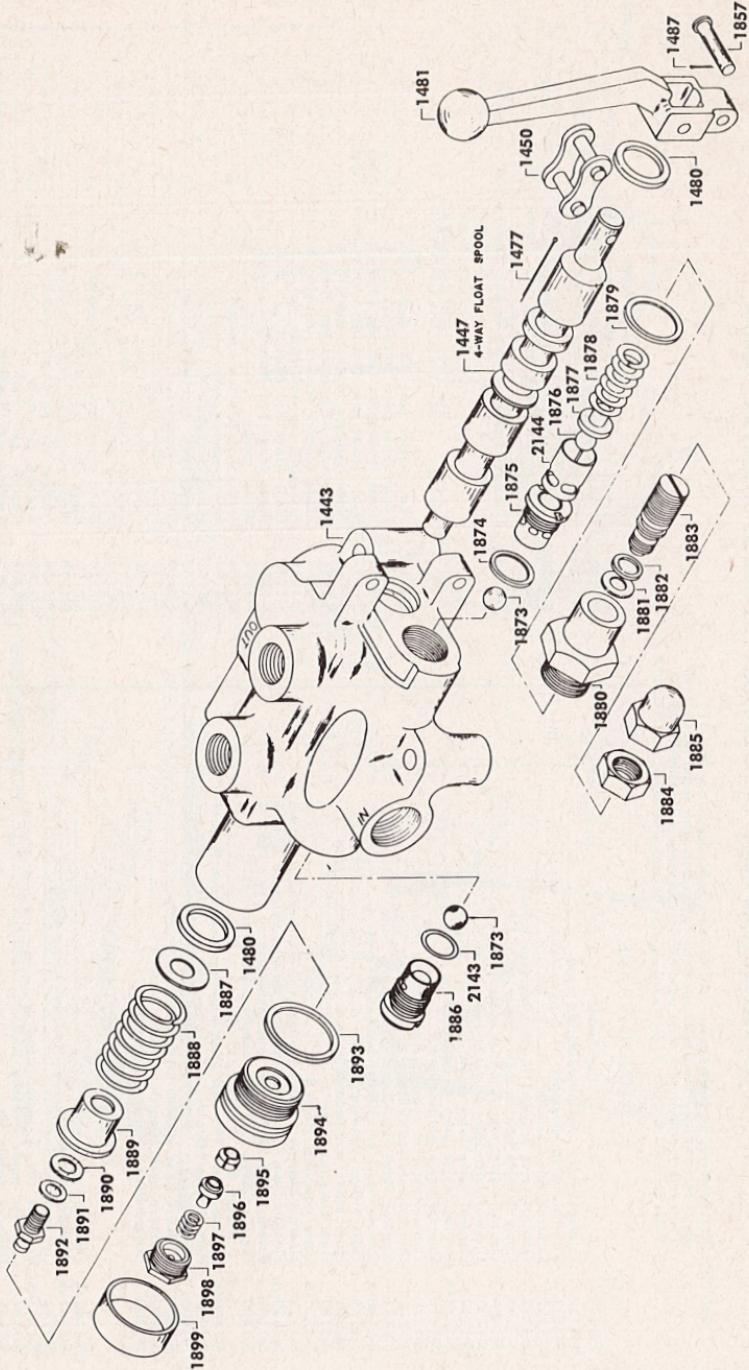
CONTROL VALVE

Part No.	Part Name	Quantity
S-1.110	Control valve assembly-floating type	1
S-1.111	Control valve body assembly	1
S-1.112	Control valve bracket	1
S-1.113	Control valve bolt & lock washer $\frac{3}{16} \times 2\frac{1}{4}''$	1
S-1.114	Control valve inlet & outlet washer $\frac{3}{16} \times \frac{1}{4}''$	1
S-1.115	Control valve inlet & outlet reducer $\frac{3}{4} \times \frac{1}{4}''$	1
S-1.116	Control valve inlet elbow Note 3	2
S-1.117	Control valve inlet elbow Note 3	2
S-1.118	Control valve outlet elbow Note 4	1
S-1.119	Control valve outlet elbow	1
S-1.120	Control valve to cylinder hose reducer Note 3	2
M-8.79	Control valve to cylinder hose reducer Note 4	2
S-1.122	Control valve to cylinder hose elbow Note 3	2
S-1.146-A	Control valve to cylinder hose elbow Note 4	1
S-1.123	Hose swivel connector Note 3	3
M-8.76	Hose swivel connector Note 4	3
S-1.127	Hose coupling Note 3	6
S-1.127-A	Hose coupling Note 4	6
S-1.129	Flexible hose $\frac{1}{4}''$ with couplings valve to cylinder Note 3	2
S-1.129-A	Flexible hose $\frac{3}{8}''$ with couplings valve to cylinder Note 4	2
S-1.105	Pressure hose $\frac{1}{4}''$ with coupling-pump to valve Note 1	1
S-1.199	Pressure hose $\frac{1}{4}''$ with couplings-pump to valve	1
S-1.199-A	Pressure hose $\frac{3}{8}''$ with coupling-pump to valve Note 4	1
S-1.1220	Return hose-valve to tank $\frac{5}{8}'' \times 59''$	1
S-1.106	Hose bracket	1
S-1.107	Pressure hose adapter at pump Note 3	1
S-1.107-A	Pressure hose adapter at pump Note 4	1
S-1.108	Return hose adapter at pump Note 3	1
BLADE & BRACKET		
S-1134	Cylinder support bracket bolt, nut & washer $1\frac{1}{2}'' \times 5/16''$	2
S-1284	Cylinder support bracket bolt $1\frac{1}{2}'' \times \frac{3}{8}''$	1
S-1136	Cylinder attaching bolt & nut (upper) $3'' \times 7/16''$	1
Note 3		1
S-1136-A	Cylinder attaching bolt & nut (upper) $3'' \times \frac{1}{2}''$ Note 4	1
S-1138	Cylinder attaching bolt & nut (lower) $1\frac{3}{4}'' \times \frac{3}{8}''$	1
Note 3		1
S-1138-A	Cylinder attaching bolt & nut (lower) $1\frac{3}{4}'' \times 7/16''$	1
Note 4		1
CYLINDER ASSEMBLY		
S-1140-A	Cylinder assembly	1
S-1141-A	Cylinder housing box	1
S-1142	Cylinder stuffing box	1
S-1143-A	Cylinder rod & piston head	1
S-1144	Cylinder guide bushing	1
S-1145	Cylinder repair kit	1
S-1146	Cylinder elbow Note 3	1
S-1146-A	Cylinder elbow Note 4	1
S-1147	Cylinder bracket assembly	1
S-1150	Cylinder bracket bolt, nut & washer $2'' \times 5/16''$	2
BLADE upper part		
S-1155	Blade upper part Note 1	1
S-1148	Blade upper part Note 2	1
S-1156	Blade lower part (cutting edge support) Note 1	1
S-1149	Blade lower part (cutting edge support) Note 2	1
S-1147	Blade support bracket assembly	1
S-1151	Blade support bracket pin Note 2	2
S-1152	Blade support bracket attaching cap Note 1	2
S-1153	Attaching cap bolt Note 1	4
S-1154	Blade hinge rod Note 1	1
S-1155	Blade hinge rod Note 2	1
S-1162	Blade spring	2
S-1163	Spring seat & screw assembly	2
S-1164	Spring guard cover	2
S-1165	Spring seat bolt & nut	2
S-1166	Spring pad (rubber)	2
S-1168	Spring washer	2
S-1169	Spring nut	2
S-1170	Cutting edge $72\frac{1}{2}''$ long Note 1	1
S-1172	Cutting edge $70\frac{1}{2}''$ long Note 2	1
S-1174	Cutting edge bolt	9
S-1176	Blade pivot bolt & lockwasher	1
S-1177	Blade pivot bolt washer	1
S-1178	Angling pin & chain assembly	1
S-1179	Angling pin only	1
S-1282	Audling pin bushing	1
S-1283	Audling pin chain	1
S-1698	Audling pin bushing	3
S-1182	End cutting edge R.H. Note 1	1
S-1187	End cutting edge L.H. Note 2	1
S-1184	End cutting edge L.H. Note 1	1
S-1159	End cutting edge L.H. Note 2	1

CYLINDER ASSEMBLY

S-1140-A	Cylinder assembly	1
S-1141-A	Cylinder housing	1
S-1142	Cylinder stuffing box	1
S-1143-A	Cylinder rod & piston head	1
S-1144	Cylinder guide bushing	1
S-1145	Cylinder repair kit	1
S-1146	Cylinder tube No. 3	1
S-1146-A	Cylinder elbow No. 4	1
S-1130	Cylinder bracket assembly	2
S-1132	Cylinder bracket bolt nut & washer 2" x 5/16"	2
S-1176	Blade pivot bolt & lockwasher	1
S-1177	Blade pivot bolt washer	1
S-1178	Blade pivot bolt rubber washer	1
S-1179	Anodizing pin & chain assembly	1
S-1281	Anodizing pin only	1
S-1283	Anodizing pin chain	1
S-1698	Anodizing pin bushing	1
S-1182	Edge R.H. Note 1	1
S-1187	End cutting edge R.H. Note 2	1
S-1184	End cutting edge L.H. Note 1	1
S-1159	End cutting edge L.H. Note 2	1

CONTROL VALVE (1 Spool)



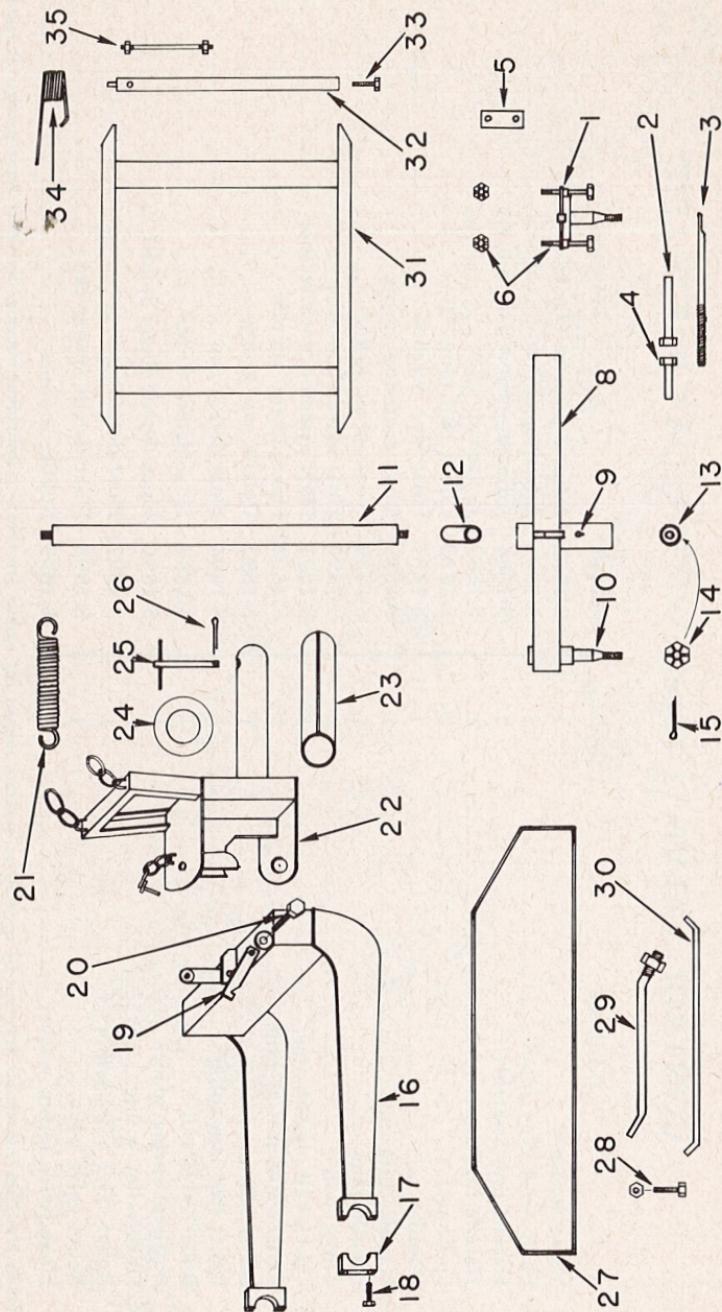
CONTROL VALVE (1 Spool) WITH FLOAT PARTS LIST

Part No.	Description	Quantity	Part No.	Description	Quantity
S-1443	Valve housing	1	S-1882	Adjusting screw O ring	1
S-1447	Float — 4-Way spool	1	S-1883	Adjusting screw	1
S-1450	Handle link assembly	1	S-1884	Adjusting screw jam nut	1
S-1477	Handle link cotter pin	1	S-1885	Acorn cap	1
S-1480	Spool seal	2	S-1886	Check ball plug	1
S-1481	Handle	1	S-1887	Float stop washer	1
S-1487	Handle cotter pin	1	S-1888	Float centering spring	1
S-1857	Handle pins	1	S-1889	Float spring collar	1
S-1873	Check ball	2	S-1890	Float assembly washer	1
S-2143	Check ball plug O ring	1	S-1891	Float assembly lock washer	1
S-1874	Relief valve seal O ring	1	S-1892	Float detent adapter	1
S-1875	Relief valve seat	1	S-1893	Detent cap gasket	1
S-2144	Relief seat jam collar	1	S-1894	Float detent cap	1
S-1876	Relief valve ball	1	S-1895	Float detent finger	3
S-1877	Ball seal spring spacer	1	S-1896	Float detent finger holder	1
S-1878	Float relief spring	1	S-1897	Float detent spring	1
S-1879	Relief valve body gasket	1	S-1898	Float detent spring cap	1
S-1880	Relief valve body	1	S-1899	Rubber bonnet	1
S-1881	Float relief spring washer	1			

NOTE: Housings and spools may not be ordered as separate items. All spools are fitted to individual housings by select hone process at factory.

S-1349; Pump service connector / 24 S Imperial

T-6 TRAILER



T-6 TRAILER PARTS LIST

NOTES: Parts referred to note 1 were used after serial no. C-1366

Parts referred to note 2 were used after serial no. C-1536

For suspension parts on trailers before serial no. C-1536
order one J-175-A cone inner to complete interchangeability

Ref. No.	Part No.	Description	Qty per unit	Ref. No.	Part No.	Description	Qty per unit	Ref. No.	Part No.	Description	Qty per unit	Ref. No.	Part No.	Description	Qty per unit
TRACK															
J-170	Wheel assembly	4		11	T-800	Tandem axle cross shaft	1	11	T-800	Tandem axle cross shaft	1	9	T-810	Ski assembly R.H.	1
J-171	Wheel mud excluder	4		16	T-815	Cross shaft brace bolt	2	12	T-801	Cross shaft sleeve	4	10	T-811	Ski assembly L.H.	1
T-900-A	Track assembly	2		17	T-917-1	Draw bar end cap $\frac{5}{16}$ "	1	13	T-808	Cross shaft sleeve stop washer	2	11	T-812	Ski runner-shoe	2
M-121	Track assy with cross link 1/4"	2		17	T-917-2	Draw bar end cap $\frac{3}{16}$ "	2	14	J-179	Cross shaft sleeve washer	2				
M-121-A	Track cross link	66		18	T-918-1	Draw bar end cap bolt $\frac{5}{8}$ "	4	15	J-180	Cross shaft sleeve cotter pin	2				
M-121	Track cross link 1/4"	66		18	T-918-2	Draw bar end cap bolt $\frac{3}{4}$ "	4								
T-901	Track belt	4		19	T-816	Note 1	4								
M-123	Track plate (cleat)	132		20	T-817	Draw bar holder bolt, nut & washer	1								
J-125	Track bolt and nut	264		21	T-938	Swivel spring	2								
				22	T-821	Swivel spring chain	2								
				23	T-822	Spring bolt and nut	2								
				24	T-824	Swivel assembly	1								
				25	T-825	Swivel sleeve thrust washer	1								
				26	T-828	Swivel lock pin	1								
				27	T-823	Swivel tube grease fitting	1								
				28	T-831	Bunks	2								
				29	T-846	Bunk and brace bolt and nut (round)	4								
				30	T-854	Bunk brace (flat)	2								
				31	T-855	Rear rack assembly	1								
				32	T-838	Pulley axle	2								
				33	T-834	Pulley frame	2								
				34	T-936	Pulley axle nut	1								
				35	T-937	Pulley bearing seal	1								
					T-864	Pulley bearing cup	1								
						Pulley corner bracket bolt and washer	1								
						Pulley corner bracket cotter pin	1								
1	J-186-A	Rear spindle ass'y (right or left) 1 1/4" dia., note 2	2												
2	J-187	Adjusting screw	2												
3	J-188	Adjusting screw	2												
4	J-189	Adjusting crew lock nut	2												
5	J-190	Rear spindle bolt & nuts	4												
6	J-191	Rear spindle bolt & nuts	8												
T-803-A	Tandem axle right (spindle 1 1/4" dia.) Note 2	2													
8	T-804-A	Tandem axle left (spindle 1 1/4" dia.) Note 2	2												
9	T-805	Tandem axle grease fitting (45°) Spindle 1 1/4" dia. Note 2	2												
10	J-200-A														

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"Bombardier"

TRACTEURS

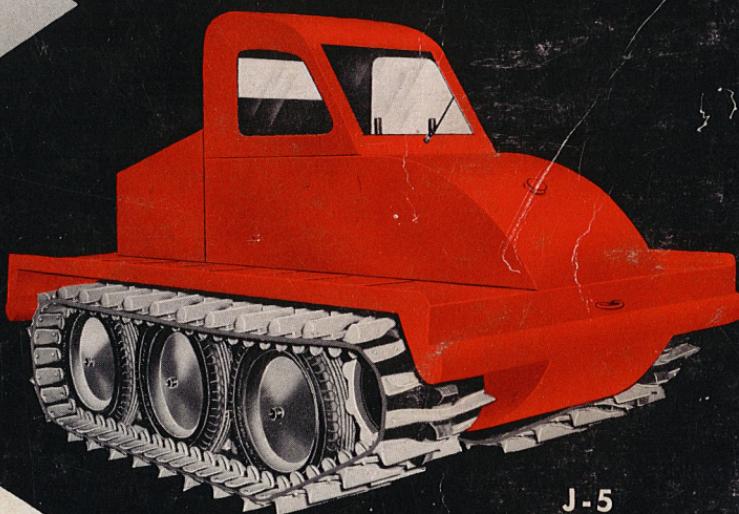
J-5 SW & RR

TRACTORS

OPERATOR'S
MANUAL
AND SPARE PARTS LIST

MANUEL
DU CONDUCTEUR

ET LISTE DE PIÈCES
DE RECHANGE



J-5

MANUFACTURED BY
FABRIQUÉ PAR

BOMBARDIER SNOWMOBILE LIMITED

L'AUTO-NEIGE BOMBARDIER LIMITÉE

VALCOURT, QUE.

CANADA