



PALADIN™
LIGHT CONSTRUCTION GROUP



The Power of Combined Excellence

BRADCO

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DEXTER, MI 48130 USA
PH 800-456-7100
FX 734-996-9014

FFC

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HARLEY

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MCMILLEN

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SWEEPSTER

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DEALER WARRANTY INSTRUCTION MANUAL

PROCEDURES & FORMS

U.S.A. & CANADA ONLY

PLEASE READ CAREFULLY

PART #75503

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Introduction

Paladin Light Construction Divisions of Bradco, FFC, Harley, McMillen, & Sweepster are synonymously used throughout this manual and in reference to Company policy. When PLC is used, it is reference to the specific products of that Division.

Our equipment is warranted to be free from defects in material and/or workmanship. If a defect should exist, repair or replacement of the defective part(s) by that division to the authorized servicing agent are provided for as set forth herein. Warranty begins on the date the product is purchased by the original purchaser, first lease and/or rental of unit, or 6 months after invoiced ship date if no registration has been submitted. Once the warranty period has begun it cannot be stopped or interrupted for any reason, and all warranties are non-transferable. If leased or rented by rental yard first, then sold warranty will not transfer; warranty ends at that point.

It is important to remember that the final decision to accept or reject a warranty claim is based upon the information presented for each situation. To receive proper credit consideration, please include complete details on all defects and the procedures required to correct. Although details may seem obvious to the person preparing the claim, the manufacturer doesn't have this same first-hand information. Photographs and detailed information are a tremendous help in getting your warranty claims handled expeditiously. Additional correspondence to obtain more information only delays settlement.

Improvements

PLC is continually attempting to make product improvements. It reserves the right to make changes or additions to any product without incurring any obligation whatsoever to make such changes or additions to products previously sold.

Limited Warranty

All new products are warranted to be free from defects in material and/or workmanship during their warranty period. Under no circumstances will it cover any merchandise or components thereof, which, in the opinion of the company, have been subject to misuse, unauthorized modifications, alterations, accidents, or if repairs have been made with parts other than those obtainable through Paladin Light Construction.

In the event of a defect within the warranty period from initial purchase, first lease or rental or 6 months after invoiced ship date if no registration / service agreement has been submitted: excluding (cable, ground engaging parts such as sprockets, digging chain, bearings, teeth, tamping and demolition heads, blade cutting edges, pilot bits, auger teeth, auger heads, and broom brushes). If after examination, it is determined failure was due to defective material and/or workmanship, part(s) will be repaired or replaced. PLC may request defective part(s) be returned PRE-PAID to them for inspection at their place of business or sent to a specified location.

Any claims under this warranty must be made within thirty (30) days from date of repair, and all repairs must be made within 30 days from date of failure. All claims not made in writing and received within these time periods specified above shall be denied.

Limitations on Responsibility

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND THERE ARE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE . IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGE.

PALADIN LIGHT CONSTRUCTION LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES TO BUYER, RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING NEGLIGENCE, IRRESPECTIVE OF WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE PARTICULAR PRODUCTS WITH RESPECT TO WHICH LOSSES OR DAMAGES ARE CLAIMED, OR, AT THE ELECTION OF PALADIN LIGHT CONSTRUCTION THE REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED PRODUCTS.

NEW PARTS LIMITED WARRANTY

New service parts sold by an authorized dealer are warranted to be free from defects in material and/or workmanship for a period of 90 days from date of retail purchase. The 90 day warranty on dealer stocked parts begins six months after invoiced ship date if not retailed. This warranty does not include labor cost for removal and replacement of the part(s), postage, freight, shipping charges, or normal wear items.

To receive a new part under warranty, the customer must present to the dealer with the old part, a sales invoice identifying the part that was purchased, and legible date of purchase; dealer must obtain a **Dealer Warranty Authorization Number**.

To receive credit for a defective service part, the dealer must submit a warranty claim form after obtaining a **Dealer Warranty Authorization Number** within 30 days of repair. A copy of the purchase invoice must accompany the warranty claim application. Dealer must tag and hold the defective part(s) for 60 days after warranty claim is submitted. PLC may elect to issue a Return Material Authorization number to have the part(s) returned for inspection, PRE-PAID to our place of business.

Warranty on service parts installed on a machine in warranty expires 90 days after retail purchase or at the expiration date of the new equipment warranty, whichever occurs last.

This warranty is in lieu of all other warranties expressed or implied, and there are no warranties of merchantability or of fitness for a particular purpose. In no event shall PLC be liable for consequential or special damages.

PLC's liability for any and all losses and damages to buyer, resulting from any cause whatsoever, including negligence, irrespective of whether such defects are discoverable or latent, shall in no event exceed the purchase price of the particular products with respect to which losses or damages are claimed, or at the election of **PALADIN LIGHT CONSTRUCTION** the repair or replacement of defective or damaged products.

Warranty Periods

FFC, SWEEPSTER, and HARLEY will warranty all products for a period of one year. BRADCO & McMILLEN will warranty all listed products for the period listed behind product if sold through our distribution. This covers all normal warranty items, excluding ground engaging parts such as; (sprockets, digging chains, bearings, teeth, tamping and demolition heads, blade cutting edges, pilot bits, auger teeth, auger heads, and broom brushes). Listed below are the serial number breaks for individual products. All numbers above listed ones will have the new warranty periods. If you have any questions, contact our Warranty Manager for Assistance.

BRADCO®

Backhoes and Trenchers	2 Year Warranty Period
Dozer Blades	2 Year Warranty Period
Pallet Forks	2 Year Warranty Period
All Grapples Bkt. & 4-IN-1 Bkt. & Dirt Bkts.	2 Year Warranty Period
Tillers & Tree Spades	2 Year Warranty Period
Postmaster / SlabBlaster	2 Year Warranty Period
Stump Grinders	1 Year Warranty Period
Rotary Cutters	1 Year Warranty Period
Cold Planers	1 Year Warranty Period
Vibratory Rollers & Vibratory Plow	1 Year Warranty Period
Magnum Mulchers	1 Year Warranty Period
Hitch Latch Kits	90 Day Warranty Period
Rear Stabilizer Kits	90 Day Warranty Period
All Mini Skid Steer Products	1 Year Warranty Period
<small>This includes all Mini Brooms, Tillers, Vibratory Roller, Vibratory Plows, Trenchers, Tree Forks, Skid Hoes, Scarifiers, Pallet Forks, Multi Task Tools, Levelers, Blades, Grapple Forks, Dirt Buckets, Augers, 4-IN-1 Buckets, and Adaptor Plates.</small>	
FFC - All FFC products	1 Year Warranty Period
HARLEY - All HARLEY products	1 Year Warranty Period
McMILLEN	
C Series Augers (C920/C1420/C1920)	2 Year Warranty Period
High Torque Drives (X4075/X5075/X6075/X8075)	2 Year Warranty Period
25 Series Value Drives (X625/X825/X1225/X1425/X1625)	1 Year Warranty Period
<u>Special Note: Planetary Gearbox Carries an Additional 1 Year</u>	
X Series Augers (X975/X1475/X1975/X2475/X3575)	2 Year Warranty Period
<u>Special Note: Planetary Gearbox Carries an Additional 3 Years</u>	
SWEEPSTER - All SWEEPSTER products	1 Year Warranty Period
All Units Sold Through OEM Distribution	Per OEM Agreement

Warranty Claim Procedures and Instructions

Prior to Submitting a Claim

Warranty Registration: **Within 10 days after first lease, rental, or sale of a new unit**, the Warranty Registration must be completed and returned to Paladin Light Construction by the selling dealership in order to receive warranty for any and all defects. **Note: This form is sent with each new product.** In the event a new unit isn't sold, warranty will start 6 months from invoiced ship date. A Registration will have to be filled out on any such unit, before any warranty work is performed. If you have any questions, please contact our Warranty Manager for forms and assistance.

When a Defect Occurs that may be Claimed for Warranty

Read the manual carefully for procedures and instructions. All dealers must obtain from our Warranty Manager a **Warranty Authorization Number** before performing any repairs. All claims submitted without a **Warranty Authorization Number** will be denied warranty. In all cases, the most economical repair should be performed, unless otherwise directed. Credit will not be allowed for assemblies, or groups, if it is practical to make the repair with individual parts. In some cases, the assembly, or group price may be less than the total of the parts and labor required to complete the repair. In those cases, an assembly, or group may be used if prior approval is granted by our Warranty Manager. When repairing the defect, you must use the Repair Time Allowance Table for your repair times. **Note: Remember to contact our Warranty Manager for a required Authorization Number before starting repairs.** In the event the Repair Time Allowance Table doesn't cover your situation, you must get prior approval before performing the work. To avoid long diagnostic time, contact our Service Manager for assistance. The Warranty Manager may allow up to one-hour diagnostic time, where appropriate, on approved claims. Only those parts provided by Paladin Light Construction are eligible for warranty; the use of parts from other sources will not be eligible for warranty consideration. We reserve the right to deny or reverse any and all warranty claims for parts, freight, or labor charges, when errors are found or warranty provisions are abused or fraudulent claims are submitted. All warranty work must be completed within 30 days of failure. Notify our Warranty Department if repairs will require more than 30 days after failure for an extension. No claims will be accepted for a warranty that exceeds this 30 day period unless you have an extension. No warranty will be allowed on units delivered to the retail customer prior to the full payment of that unit to the manufacturer by the dealer. Hoses may be shipped special freight and will be reimbursed for said freight on approved claims with **Prior Approval** from our Warranty Manager; this is for **Down Machines Only**.

Submitting a Warranty Claim

Warranty Claims submitted will only be considered on our form; all other claims or forms will be denied or rejected. Improperly completed claims or claims where the warranty registration isn't on file before the failure, the warranty start date will be reverted back to invoiced ship date, if outside the 6 month window. If within the 6 month window, the claim will be returned to sender with a letter explaining the return. **Note: All claims must have Warranty Authorization Number.** All claims must be submitted within (30) days from date of repair, failure to submit claims within this time period will result in denied claims. Work orders or shop invoices should accompany the claim to help the manufacturer in giving the proper credit. If parts are used, a copy of our parts invoice must accompany the claim.

Material Reimbursement

Service parts will only be reimbursed at dealer net cost. A copy of the parts invoice must accompany warranty claim if parts are purchased for repairs. Reimbursement for parts used in warranty repair will be credited only when the parts are purchased from PALADIN LIGHT CONSTRUCTION; no warranty will be allowed on parts that are past due. Parts must be repaired by authorized dealers with a **Warranty Authorization Number** to receive credit under warranty. Claims submitted without a **warranty authorization number** or repaired by other than authorized dealers will be denied.

Labor Reimbursement

The Repair Time Allowance Table in the back of the manual must be used for all repairs.

Labor will be reimbursed at a rate up to, but not to exceed \$65.00 per hour, for all repairs. In the event that more than one warranty defect is being submitted on the same claim, each defect must be documented, to aid in receiving the proper credit. For repairs not covered by the Repair Time Allowance Table, the time submitted will be adjusted based on past job experience and records. Non-Authorized dealers or Owners will not receive labor credit for repairs. When using the repair table, if one repair leads into another, no extra time will be given for both, we will use past job experience and records to adjust repair times.

Freight Reimbursement

Freight will be reimbursed at surface delivery rates on approved warranty claims. **Note: All warranty parts will be shipped regular ground, unless the dealer specifies otherwise.** Freight charges for next day or other special freight service will not be reimbursed for warranty; the customer will be responsible to pick up those expenses. Parts ordered for warranty and shipped with other dealer parts, whether stock or otherwise, will not be reimbursed for freight at all.

Return Material Authorization

If our Warranty Manager requests the return of failed parts, you will be mailed a Return of Material Authorization or (RMA#), **Note: An RMA is not a warranty claim, and no credit will be issued from an RMA for warranty.** When returning the RMA, the number must be visible on the outside of the shipping container or on the part (s). If the RMA# isn't visible on the outside of the container, it may be refused at our receiving door and returned at sender's expense. All Return Material Authorizations will be returned **Pre-Paid by the sender - no exceptions.** All returns must be returned regular ground rates. Credit for returned freight charges will be reimbursed on approved warranty claims only; special freight on returned parts will not be credited back. Parts returned for warranty evaluation and denied, will be held for 60 days from date of denial letter. After 60 days all held parts will be scrapped if not requested back in writing by the dealers. If parts are requested back by the dealer, they will be shipped back freight -collect. Failure to return RMAs within 30 days from date of RMA will result in denied warranty and voided RMA. A letter will be sent denying warranty and voiding the RMA, and any attempt to return items will be refused at our receiving door and returned to the dealer at their expense. We are not responsible for parts returned without an RMA#; this may result in lost parts and no credit being issued. All defective parts must be tagged and held for 60 days after warranty claim is submitted; after 60 days the defective parts may be scrapped. Parts that are supplied to us by other vendors, once returned on RMA, will be sent out for their evaluation by that vendor. The vendor's decision will be what we use to accept warranty or deny warranty. **Disassembly of hydraulic motors, planetaries or gearboxes will automatically void warranty.**

Credit Memos

Credit Memo is the term used to describe the reimbursement to the dealer for warranty. After the warranty claim has been approved by the warranty department, it will then be processed by the accounting department. Length of time for reimbursement depends on if the dealer has submitted on-time the unit's registration / service agreement, or if an RMA# has been issued. Warranties submitted that are correctly filled out and the registration / service agreement is on file and not awaiting an RMA, will normally be processed within 7 working days. If awaiting RMA or evaluation from vendor on an RMA, this process has taken up to 30 days or more. So all part's invoices must be paid on time and credits will be issued when the RMA has been completed and credit issued on approved warranty claim. Once the Warranty Department has approved a claim, it is then transferred to the accounting department to issue the credit memo. Credits will be issued to the submitting dealership only; all credits will be issued to your dealership account as a credit. Your dealership must be an authorized dealer in order to receive warranty credits.

Denied Claims

Dealers will be notified of a denial in writing that will state the reason for the denial. The dealer has the right to appeal the denied claim, and must do so within 30 days of notification of denial. If there has been no appeal within that 30 day period, the claim will be considered closed and no future appeal will be heard. Appeals should be made directly to our Warranty Manager.

Sales Policy Adjustments

Sales Policy Adjustment is a term used to describe a credit by our field representatives for special circumstances such as denied warranty, mounting issues, or non-eligible warranty issues.

Note: Only Sales Representatives can request such policy adjustments.

ITEMS THAT ARE NOT ELIGIBLE FOR WARRANTY

Travel time, mileage, meals, and lodging. Overtime premiums. Labor time for phone, fax, or other consultation between dealers, sales, or service management personnel, operators, owners etc. Hydraulic oil replacement. Reimbursement for rental units while repairing our units. Normal installation procedures including mounting our units, tightening bolts, fittings, hoses, and maintaining oil levels. Dealer rework due to faulty repair or installation. Damage or malfunctions resulting from natural calamity, theft, accident, vandalism, abuse due to misapplication, improper site conditions, incorrect maintenance, negligence, unauthorized modifications and/or alterations. Normal maintenance items such as: adjustments, oil changes, lubricating, and tightening of bolts, clamps, hoses and fittings. Parts that engage or contact the working material (normal wearing parts such as sprockets, digging chain, bearings, teeth, tamping and demolition heads, blade cutting edges, pilot bits, auger heads and broom brushes). Repair by other than authorized dealers. Switching mounts from one prime mover to another. Warranty automatically is void if any attempts are made to make field repairs to hydraulic motors, planetary drives or gearboxes, any disassembling will void manufacturers warranty. Exceeding the maximum pressure setting from the factory. Alterations or modifications made without expressed written consent of Paladin Light Construction. Use of non- Paladin Light Construction parts; parts made up or purchased by sources other than through Paladin Light Construction. Engines, batteries, tires or other trade accessories, since these items are warranted separately by their respective manufacturer. Warranty work completed after 30 days from failure. Claims submitted after the 30 days from repair. Claims made under fraudulent situations. Repairs to or any modifications of the prime mover while attached to our products. Removal of parts from stock units to perform repairs on down machines. Repair made with out a **Dealer Warranty Authorization Number**.

Dealer Responsibilities

1. Supply qualified service for all units sold through your distribution.
2. Use best trained and experienced service personnel to do all work.
3. Adequate tools to perform the required work in a minimum amount of time.
4. Provide adequate parts inventory to support machine population in their territory.
5. Educate all personnel in all aspects of the product lines.
6. Properly maintain the condition of new parts and machines in their inventory, **Note; Cleaning and greasing of all cylinder rods on a regular basis, protecting from lost or stolen parts.**
7. Return warranty parts to us, as instructed, within 30 days from date of RMA. Tag and hold repair parts for 60 days after claim is submitted.
8. Use only our manufactured parts for all repairs.
9. Perform all required inspections, and provide warranty and service repairs for units sold through their dealership and report all failures to factory. Inspection of all received parts and whole goods.
10. **Obtain Warranty Authorization Number before starting any and all warranty repairs,** make all warranty repairs within 30 days from date of failure, and submit warranty claim within fifteen days from date of repair.
11. Mounting units on customer's units, perform any modifications needed to attach mounting kits and hydraulic kits. Performing modifications to prime mover to our products hydraulic limits.
12. Tighten all loose bolts, repair minor hydraulic leaks, such as loose hoses and fittings.
13. Complete warranty registration papers within ten days of retail purchase, first lease or rental of a new unit. **If registration is not returned to us prior to any warranty claims submitted, the claim will be Denied. Refusal to fill out the registration voids the warranty on the unit. Repairs will be directed away from dealership.**
14. Adhere to and follow all service bulletins from manufacturers; order and install as quickly as possible. Follow all Policies and Procedures as instructed in this manual.
15. Explain to the Owner the following "**Owner Responsibilities**".

Owner Responsibilities

1. The owner is responsible for all normal preventive maintenance and safe operating procedures.
2. Lubricate machine as specified in operator's manual.
3. Keep all bolts torqued to specifications, and inspect all bolts, fittings, and hoses daily.
4. Keep all safety equipment installed and in working condition.
5. Keep all filters clean.
6. Repair all minor hydraulic leaks such as, loose hoses and fittings.
7. Perform preventive maintenance and follow safety procedures and guidelines as described in the operator's manual.
8. Replace any decals that may be damaged or illegible. (Safety decals can be ordered through our Parts Department at no cost).
9. Use the unit only in a safe manner and with accordance with operator's manual.
10. Use qualified operators who have read and thoroughly understand the operator's and safety manuals.
11. Return unit to dealer for warranty work or follow up inspections or service bulletin updates. Failure to return a unit to dealer for warranty work within 30 days from notified failure will cause automatic denial of warranty. Failure to return unit for inspections or service bulletin updates will also void manufacturers warranty and all responsibilities.
12. Report all accidents to our factory. (See Phone Numbers and Addresses listed on the cover of this manual.)
13. Operate within unit design specifications.



WARRANTY CLAIM FORM

Claim form must be filled out completely & submitted within 30 days of failure



Paladin Light Construction
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800.456.7100 • Fax 734.996.9014

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Dealer Claim # _____	PLC Claim # _____	Dealer Account # _____
WARRANTY AUTH. # _____	USER TYPE (CNTR-RNTL-ETC.) _____	
DEALER NAME _____	USER NAME _____	
ADDRESS _____	ADDRESS _____	
CITY _____	CITY _____	
STATE _____ ZIP _____	STATE _____ ZIP _____	
TELEPHONE NO. _____	TELEPHONE NO. _____	
MODEL NO. _____	DATE OF FAILURE _____	
SERIAL NO. _____	HOURS ON UNIT _____	
UNIT MOUNTED ON _____	REPAIR DATE _____	
DELIVERY DATE OF UNIT _____	FAILURE CAUSED BY PART NO. _____	

PLEASE ATTACH COPIES OF PARTS INVOICES AND/OR OUTSIDE LABOR INVOICES. ANY ITEMS RETURNED TO PALADIN LIGHT CONSTRUCTION DIVISIONS MUST HAVE RETURN MATERIAL AUTHORIZATION NUMBER (RMA).

DESCRIPTION OF FAILURE

CORRECTIVE MEASURES TAKEN

PART NO.	DESCRIPTION	QTY	COST EA.	TOTAL	HOURS	RATE	TOTAL
				\$ -			\$ -
				\$ -			\$ -
				\$ -			\$ -
				\$ -			\$ -
				\$ -			\$ -
				\$ -			\$ -
				\$ -			\$ -
				\$ -			\$ -

COMPLETED BY PLC	
PARTS	\$ _____
DEALER LABOR	\$ _____
OUTSIDE LABOR	\$ _____
FREIGHT	\$ _____
POLICY ADJ.	\$ _____
MISC	\$ _____
TOTAL CREDIT	\$ _____
APPROVED BY: _____	DATE: _____

DEALER CLAIM CREDIT SUMMARY		
PARTS	\$ _____	-
DEALER LABOR	\$ _____	-
OUTSIDE LABOR	_____	
FREIGHT	_____	
MISC	_____	
TOTAL REQUESTED	\$ _____	
DEALER SIGNATURE: _____	TITLE: _____	DATE: _____

REPAIR TIME ALLOWANCE

TABLES

&

PROCEDURES

Please Read Carefully

BRADCO / McMILLEN / FFC / SWEEPSTER / HARLEY
2800 N. Zeeb Road
Dexter, MI 48130 USA
PH 800-456-7100
FX 734-996-9014

REPAIR TIME ALLOWANCE

INSTRUCTIONS FOR PROPER USE IN PREPARING WARRANTY CLAIMS

This table shows the MAXIMUM ALLOWABLE times required to complete the listed repairs performed by experienced personnel, using the proper tools and equipment. We will use this time schedule for all warranty repair reimbursement.

Times for repairing items not listed on the attached schedule will be determined by past labor records.

REMOVAL AND REPLACEMENT (R&R) times are to be used when a component is removed and a like component is re-installed; no overhaul is performed.

Cylinder overhaul is in addition to R&R time. All other overhaul times include the R&R of the component from the unit, and cover the replacement of any one or more items during the overhaul.

Times listed include bringing the unit into the shop and cleaning up after the repairs are completed.

PRIOR APPROVAL REQUIRED BEFORE STARTING ANY WARRANTY REPAIRS / MUST OBTAIN AUTHORIZATION # !

Before starting any warranty repairs, a **Warranty Authorization Number must be obtained. Failure to obtain this **Warranty Authorization Number** will result in claim being denied warranty.**

BRADCO / FFC / McMILLEN

REPAIR TIME ALLOWANCE

BACKHOE BUCKET

Complete Bucket	R&R	All Series and Sizes	.30 Hrs.
Bucket Link	R&R	All Series and Sizes	.20 Hrs.
Dipper Link	R&R	All Series and Sizes	.20 Hrs.
Teeth Crimp On	R&R	Early Models	.20 Hrs.
Teeth Pin On	R&R	All Series and Sizes	.20 Hrs.

BACKHOE CYLINDERS

Boom Cylinder	R&R	All Backhoes except 3265	.75 Hrs.
Boom Cyl. + Overhaul		All Backhoes except 3265	1.25 Hrs.
Boom Cylinder	R&R	3265	.40 Hrs.
Boom Cyl. + Overhaul		3265	.90 Hrs.
Dipper Cylinder	R&R	All Series and Sizes	.40 Hrs.
Dipper Cyl. + Overhaul		All Series and Sizes	.90 Hrs.
Bucket Cylinder	R&R	All Series and Sizes	.30 Hrs.
Bucket Cyl. + Overhaul		All Series and Sizes	.80 Hrs.
Stabilizer Cylinder	R&R	All Series and Sizes	.40 Hrs.
Stabilizer Cyl. + Overhaul		All Series and Sizes	.90 Hrs.
Swing Cylinder	R&R	All Backhoes except 3265	1.20 Hrs.
Swing Cyl. + Overhaul		All Backhoes except 3265	1.70 Hrs.
Swing Cyl. Needle Bearing	R&R	All Series and Sizes	1.90 Hrs.
Swing Cylinder	R&R	3265	.75 Hrs.
Swing Cyl, + Overhaul		3265	1.25 Hrs.

BACKHOE HYDRAULIC COMPONENTS

Check Valve	R&R	All Series and Sizes	.20 Hrs.
Flow Divider	R&R	All Series and Sizes	.40 Hrs.
Swing Speed Control	R&R	All Series and Sizes	.60 Hrs.
Hydraulic Fitting (One)	R&R	All Series and Sizes	.40 Hrs.
In Line Filter	R&R	All Series and Sizes	.20 Hrs.
Valve Anti-Cav. (One)	R&R	All Series and Sizes	.40 Hrs.
Valve Circuit Relief (One)	R&R	All Series and Sizes	.40 Hrs.
Complete Valve	R&R	All Series and Sizes	2.00 Hrs.
Valve Section (One)	R&R	All Series and Sizes	3.00 Hrs.
Valve Spool Seal (One)	R&R	All Series and Sizes	.50 Hrs.
Valve Spool Seal (Three)	R&R	All Series and Sizes	1.50 Hrs.
All Valve Spool Seals	R&R	All Series and Sizes	3.00 Hrs.

BACKHOE MAIN FRAME ASSEMBLY

Boom	R&R	All Series and Sizes	2.50 Hrs.
Boom Hook	R&R	All Series and Sizes	.30 Hrs.
Console Weldment	R&R	All Series and Sizes	1.00 Hrs.
Dipper	R&R	All Series and Sizes	1.50 Hrs.
Mainframe	R&R	All Series and Sizes	4.20 Hrs.
Backhoe Seat	R&R	All Series and Sizes	.10 Hrs.
Stabilizer Arm	R&R	All Series and Sizes	.30 Hrs.
Swing Post	R&R	All Series and Sizes	2.50 Hrs.
Swing Post Bearing (One)	R&R	All Series and Sizes	2.75 Hrs.
Swing Post Bushing (One)	R&R	All Backhoes except 3265	1.65 Hrs.
Swing Chain R&R (One)	R&R	3265	.30 Hrs.
Boom Bushing (One)	R&R	All Series and Sizes	1.65 Hrs.
Boom, Swing Pivot Pin	R&R	All Series and Sizes	1.50 Hrs.
Boom, Dipper Pivot Pin	R&R	All Series and Sizes	.50 Hrs.

BACKHOE HOSE REPLACEMENT

Boom Cyl. Hose (One)	R&R	All Series and Sizes	1.00 Hrs.
Dipper Cyl. Hose (One)	R&R	All Series and Sizes	.50 Hrs.
Bucket Cyl. Hose (One)	R&R	All Series and Sizes	.50 Hrs.
Supple Hose (One)	R&R	All Series and Sizes	.20 Hrs.
Long Swing Cyl. Hose	R&R	All Series and Sizes	.60 Hrs.
Short Swing Cyl. Hose	R&R	All Series and Sizes	.60 Hrs.
Stabilizer Cyl. Hose (One)	R&R	All Series and Sizes	.50 Hrs.
Hydraulic Coupler (One)	R&R	All Series and Sizes	.20 Hrs.

TRENCHERS

Auger	R&R	612,615,625,640,650	.50 Hrs.
Boom End	R&R	612,615,625,640,650	.60 Hrs.
Boom	R&R	612,615,625,640,650	.75 Hrs.
Mainframe	R&R	612,615,625,640,650	4.00 Hrs.
Wear Strip	R&R	612,615,625,640,650	.75 Hrs.
Crumber Bar	R&R	612,615,625,640,650	.30 Hrs.
Lift Cylinder	R&R	612	.50 Hrs.
Lift Cyl. + Overhaul		612	1.00 Hrs.
Cylinder Hose (One)	R&R	612	.20 Hrs.
Digging Chain	R&R	612,615,625,640,650	.30 Hrs.
Digging Chain Sprocket	R&R	612,615,625,640,650	1.10 Hrs.
Drive Chain	R&R	612,615,625,650	.50 Hrs.
Drive Sprocket	R&R	612,615,625,650	.75 Hrs.
Idler Wheel	R&R	612,615,625,640,650	.85 Hrs.
Idler Wheel Bearing	R&R	612,615,625,640,650	1.00 Hrs.
Gear Box Overhaul		612	3.50 Hrs.
Gear Box Assy.	R&R	612	2.00 Hrs.
Planetary Gearbox Assy.	R&R	615,640	1.80 Hrs.
Planetary Oil Seal	R&R	615,640	.50 Hrs.
Head Shaft	R&R	612,615,625,650	2.00 Hrs.
Supply Hose (One)	R&R	612,615,625,640,650	.20 Hrs.
Hydraulic Motor	R&R	615,625,640,650	.75 Hrs.
Motor Sprocket	R&R	612,625,615,650	.75 Hrs.
Friction Clutch	R&R	612	1.00 Hrs.
PTO Shaft One Half	R&R	612	.30 Hrs.
Digging Chain Teeth (One)	R&R	612,615,625,640,650	.10 Hrs.
Valve	R&R	612	.50 Hrs.
Head Shaft Bearing	R&R	612,615,625,650	2.35 Hrs.

TILT ATTACH

Cylinder	R&R	Tilt Attach	1.00 Hrs.
Cyl. + Overhaul	R&R	Tilt Attach	1.50 Hrs.
Cyl. Hose (One)	R&R	Tilt Attach	1.00 Hrs.
Fitting (One)	R&R	Tilt Attach	1.00 Hrs.
Cylinder Bushing	R&R	Tilt Attach	1.50 Hrs.
Front Frame	R&R	Tilt Attach	1.00 Hrs.
Rear Frame	R&R	Tilt Attach	1.00 Hrs.
Lock Pin (One)	R&R	Tilt Attach	1.00 Hrs.
Handle (One)	R&R	Tilt Attach	.20 Hrs.
Valve Assy.	R&R	Tilt Attach	.40 Hrs.

DOZER BLADE

Supply Hoses (One)	R&R	Dozer Blade	.20 Hrs.
Fitting (One)	R&R	Dozer Blade	.30 Hrs.
Cylinder Hose (One)	R&R	Dozer Blade	.20 Hrs.
Valve	R&R	Dozer Blade	.50 Hrs.
Cylinder	R&R	Dozer Blade	.50 Hrs.
Cyl. + Overhaul	R&R	Dozer Blade	.90 Hrs.
Cylinder Pin	R&R	Dozer Blade	.20 Hrs.
Tilt Frame	R&R	Dozer Blade	2.00 Hrs.
Rear Frame	R&R	Dozer Blade	1.50 Hrs.
Mold Board	R&R	Dozer Blade	1.50 Hrs.
Guide Plate	R&R	Dozer Blade	.40 Hrs.
Pivot Pin	R&R	Dozer Blade	.50 Hrs.

AUGERS DRIVES

Complete Chain Box	R&R	"C" Series	.50 Hrs.
Chain Box Motor	R&R	"C" Series	.70 Hrs.
Chain	R&R	"C" Series	.30 Hrs.
Drive Sprocket	R&R	"C" Series	1.00 Hrs.
Motor Sprocket	R&R	"C" Series	.90 Hrs.
Supply Hose (One)	R&R	"C" Series	.20 Hrs.
Motor Base	R&R	"C" Series	1.00 Hrs.
Chain Box Covers	R&R	"C" Series	.10 Hrs.
Output Shaft	R&R	"C" Series	1.50 Hrs.
Output Shaft Bearing	R&R	"C" Series	1.50 Hrs.
Hydraulic Fitting (One)	R&R	"C" Series	.25 Hrs.
Motor Housing	R&R	3K2, "X" Series, 25 Series, High Torque Drives	.50 Hrs.
Motor	R&R	3K2, "X" Series, 25 Series, High Torque Drives	.75 Hrs.
Planetary	R&R	3K2, "X" Series, 25 Series, High Torque Drives	.75 Hrs.
Motor Gasket	R&R	3K2, "X" Series, 25 Series, High Torque Drives	.75 Hrs.
O-Ring	R&R	3450,4450	.75 Hrs.
Selector Valve	R&R	3K2, "X" Series	.50 Hrs.
Motor Fitting (One)	R&R	3450,4450	.20 Hrs.
Utility Housing (One)	R&R	X8000,14K2, 8K2	1.00 Hrs.
Motor	R&R	X8000,14K2, 8K2	1.50 Hrs.
Planetary	R&R	X8000,14K2, 8K2	1.50 Hrs.
O-Ring	R&R	X8000,14K2, 8K2	1.50 Hrs.
Hydraulic Fitting (One)	R&R	X8000,14K2, 8K2	1.50 Hrs.
Hydraulic Hose (One)	R&R	X8000,14K2, 8K2	1.25 Hrs.
Pressure Sensing Valve	R&R	14K2, 8K2	1.50 Hrs.
Shuttle Valve	R&R	14K2, 8K2	1.50 Hrs.

POSTMASTER OR SLABBLASTER

Collar Head	R&R	Postmaster	.40 Hrs.
Upper Head Plate	R&R	Postmaster	.40 Hrs.
Guide Block	R&R	Postmaster	.45 Hrs.
Hammer	R&R	Postmaster / SlabBlaster	.30 Hrs.
Front Cover	R&R	Postmaster / SlabBlaster	.20 Hrs.
Motor	R&R	Postmaster / SlabBlaster	.50 Hrs.
Chain Coupler	R&R	Postmaster / SlabBlaster	.65 Hrs.
Motor Chain	R&R	Postmaster / SlabBlaster	.50 Hrs.
Bearing Assy.	R&R	Postmaster / SlabBlaster	.75 Hrs.
Drive Shaft	R&R	Postmaster / SlabBlaster	1.50 Hrs.
Idler Shaft	R&R	Postmaster / SlabBlaster	1.50 Hrs.
Drive Chain	R&R	Postmaster / SlabBlaster	2.50 Hrs.
Double Tooth Sprocket	R&R	Postmaster / SlabBlaster	1.20 Hrs.
Bushing	R&R	Postmaster / SlabBlaster	1.20 Hrs.
Chain Guard	R&R	Postmaster	.20 Hrs.
Idler Sprocket	R&R	Postmaster	.45 Hrs.
Cylinder	R&R	Postmaster	.50 Hrs.
Hydraulic Hose (One)	R&R	Postmaster	.25 Hrs.
Fitting	R&R	Postmaster	.25 Hrs.
Coupler	R&R	Postmaster	.20 Hrs.
Grapple Chain	R&R	Postmaster	.30 Hrs.
Pivot Actuator	R&R	Postmaster	.30 Hrs.
Spring	R&R	Postmaster	.10 Hrs.
Actuator Pivot Bar	R&R	Postmaster	.30 Hrs.
Pivot Actuator Arm	R&R	Postmaster	.30 Hrs.

4-IN-1 / GRAPPLE BUCKETS / BRUSH GRAPPLES

Cylinder	R&R	4-in1, All Grapple Buckets	.30 Hrs.
Cyl. + Overhaul	R&R	4-in1, All Grapple Buckets	.80 Hrs.
Clamp Weldment	R&R	4-in-1	1.20 Hrs.
Back Blade	R&R	4-in-1	2.00 Hrs.
Pivot Pin (One)	R&R	4-in1, All Grapple Buckets	.20 Hrs.
Spill Guard	R&R	4-in-1	.50 Hrs.
Cylinder Hose (One)	R&R	4-in1, All Grapple Buckets	.50 Hrs.
Supply Hose (One)	R&R	4-in1, All Grapple Buckets	.30 Hrs.
Check Valve	R&R	4-in1, All Grapple Buckets	.50 Hrs.
Fitting (One)	R&R	4-in1, All Grapple Buckets	.50 Hrs.
Fork (One)	R&R	All Grapple Buckets	.50 Hrs.
Tooth Bar	R&R	4-in1, All Grapple Buckets	.30 Hrs.
Bolt On Cutting Edge	R&R	4-in1, All Grapple Buckets	.50 Hrs.

COLD PLANER

Cylinder	R&R	All Models	.50 Hrs.
Cyl. + Overhaul	R&R	All Models	1.00 Hrs.
Motor	R&R	All Models	.50 Hrs.
Planetary	R&R	All Models	2.50 Hrs.
Drum	R&R	All Models	1.50 Hrs.
Mono Valve	R&R	All Models	.75 Hrs.
Solenoid Valve	R&R	All Models	.75 Hrs.
Solenoid (One)	R&R	All Models	.50 Hrs.
Hose (One)	R&R	All Models	.40 Hrs.
Hydraulic Coupler (One)	R&R	All Models	.20 Hrs.
Hyd. Fitting (One)	R&R	All Models	.20 Hrs.

ROTARY CUTTER

Cover	R&R	60" or 72"	.20 Hrs.
Supply Hose (One)	R&R	60" or 72"	.40 Hrs.
Hydraulic Coupler (One)	R&R	60" or 72"	.20 Hrs.
Drive Coupler	R&R	60" or 72"	.65 Hrs.
Motor	R&R	60" or 72"	.50 Hrs.
Drive Coupler Bolt (One)	R&R	60" or 72"	.10 Hrs.
Motor Plate	R&R	60" or 72"	.20 Hrs.
Rotation Indicator	R&R	60" or 72"	.65 Hrs.
Gearbox	R&R	60" or 72"	1.25 Hrs.
Blade (One)	R&R	60" or 72"	.20 Hrs.

ROOT RAKE

Cylinder	R&R	All Models	.50 Hrs.
Cyl. + Overhaul	R&R	All Models	1.20 Hrs.
Grapple	R&R	All Models	2.00 Hrs.
Tooth (One)	R&R	All Models	.15 Hrs.
Hose (One)	R&R	All Models	.50 Hrs.
Check Valve	R&R	All Models	1.00 Hrs.
Hyd. Fitting (One)	R&R	All Models	.50 Hrs.

MAGNUM MULCHER

Cylinder	R&R	All Models	.50 Hrs.
Cyl. + Overhaul	R&R	All Models	1.20 Hrs.
Motor	R&R	All Models	2.00 Hrs.
Upper Bearing Housing	R&R	All Models	3.00 Hrs.
Drive Belt	R&R	All Models	.50 Hrs.
Pulleys	R&R	All Models	1.00 Hrs.
Bearings & Adaptor	R&R	All Models	4.00 Hrs.
Atmospheric Relief	R&R	All Models	.50 Hrs.

VIBRATORY ROLLER

Hose (One)	R&R	All Models	.50 Hrs.
Motor	R&R	All Models	.75 Hrs.
Hyd. Fitting (One)	R&R	All Models	.50 Hrs.
Drum Assembly	R&R	All Models	1.00 Hrs.
Shaft Assembly	R&R	All Models	2.00 Hrs.
Hub Assembly	R&R	All Models	1.50 Hrs.
Outer Bearing Assembly	R&R	All Models	1.50 Hrs.

TILLER

Shaft	R&R	All Models	.75 Hrs.
Drive Chain	R&R	All Models	.40 Hrs.
Chain Cover	R&R	All Models	.10 Hrs.
Either Sprocket (One)	R&R	All Models	.65 Hrs.
Either Bearing (One)	R&R	All Models	.65 Hrs.
Hyd. Motor	R&R	All Models	.50 Hrs.
Shaft Cover	R&R	All Models	.10 Hrs.
Adjustment Plate	R&R	All Models	.60 Hrs.
Hose (One)	R&R	All Models	.20 Hrs.
Hydraulic Coupler (One)	R&R	All Models	.20 Hrs.
Tine (One)	R&R	All Models	.10 Hrs.
Fitting (One)	R&R	All Models	.20 Hrs.

STUMP GRINDER

Universal Mount	R&R	SG26 & SG30	1.30 Hrs.
Yoke	R&R	SG26 & SG30	.50 Hrs.
Stump Grinder Frame	R&R	SG26 & SG30	2.50 Hrs.
Swing Cylinder	R&R	SG26 & SG30	.50 Hrs.
Swing Cyl. + Overhaul	R&R	SG26 & SG30	1.00 Hrs.
Lift Cylinder	R&R	SG26 & SG30	.50 Hrs.
Lift Cyl. + Overhaul	R&R	SG26 & SG30	1.00 Hrs.
Main Pivot Pins (One)	R&R	SG26 & SG30	.30 Hrs.
Wheel Guard Cover	R&R	SG26 & SG30	.40 Hrs.
Grinding Wheel	R&R	SG26 & SG30	.50 Hrs.
Control Valve	R&R	SG26 & SG30	.75 Hrs.
Any Fitting (One)	R&R	SG26 & SG30	.20 Hrs.
Any Hose (One)	R&R	SG26 & SG30	.30 Hrs.
Any Valve Cart. (One)	R&R	SG26 & SG30	.20 Hrs.
Any Solenoid Cart. (One)	R&R	SG26 & SG30	.20 Hrs.
Right Angle Gearbox	R&R	SG26 & SG30	1.50 Hrs.
Drive Coupler	R&R	SG26 & SG30	.75 Hrs.
Hyd. Motor	R&R	SG26 & SG30	.50 Hrs.
Hydraulic Coupler (One)	R&R	SG26 & SG30	.20 Hrs.

VIBRATORY PLOW

Universal Mount	R&R	VP10	.50 Hrs.
Rear Frame	R&R	VP10	2.25 Hrs.
Front Frame	R&R	VP10	2.00 Hrs.
Top or Bottom Links (One)	R&R	VP10	.30 Hrs.
Vibratory Drive	R&R	VP10	2.50 Hrs.
Hyd. Motor	R&R	VP10	.30 Hrs.
Pressure Foot	R&R	VP10	.30 Hrs.
Cable Reel	R&R	VP10	.25 Hrs.
Any Fitting (One)	R&R	VP10	.20 Hrs.
Hydraulic Coupler (One)	R&R	VP10	.20 Hrs.
Any Hose (One)	R&R	VP10	.30 Hrs.
Cylinder	R&R	VP10	.50 Hrs.
Cyl. + Overhaul	R&R	VP10	1.00 Hrs.
Control Valve	R&R	VP10	.40 Hrs.
Any Cover (One)	R&R	VP10	.10 Hrs.
Any Pivot Pins (One)	R&R	VP10	.25 Hrs.

TREE SPADE

Valve Cover	R&R	All Models	.10 Hrs.
Mainframe w/Unvi. Hitch	R&R	All Models	5.00 Hrs.
Undercutter Blade	R&R	All Models	1.00 Hrs.
Either Gate Arm (One)	R&R	All Models	1.25 Hrs.
Either Pivot Plate (One)	R&R	All Models	1.50 Hrs.
Slide Channel (One)	R&R	All Models	.75 Hrs.
Pivot Pin (One)	R&R	All Models	.40 Hrs.
Undercutter Cylinder	R&R	All Models	.50 Hrs.
Undercutter Cyl. + Overhaul	R&R	All Models	1.00 Hrs.
Blade Cylinder	R&R	All Models	.50 Hrs.
Blade Cyl. + Overhaul	R&R	All Models	1.00 Hrs.
Gate Cylinder	R&R	All Models	.50 Hrs.
Gate Cyl. + Overhaul	R&R	All Models	1.00 Hrs.
Any Fitting (One)	R&R	All Models	.50 Hrs.
Any Hose (One)	R&R	All Models	.65 Hrs.
Hydraulic Coupler (One)	R&R	All Models	.20 Hrs.
Control Valve	R&R	All Models	1.45 Hrs.
Any Valve Cart. (One)	R&R	All Models	.50 Hrs.
Any Solenoid (One)	R&R	All Models	.50 Hrs.
Blade (One)	R&R	All Models	.10 Hrs.

SWEEPSTER

REPAIR TIME ALLOWANCE

HYDRAULIC BROOMS

Hydraulic Hose (One)	R&R	Bucket, Angle, Tow	.40 Hrs.
Cylinder	R&R	Bucket, Angle, Tow	.50 Hrs.
Cyl. + Overhaul	R&R	Bucket, Angle, Tow	1.20 Hrs.
Hydraulic Coupler (One)	R&R	Bucket, Angle, Tow	.25 Hrs.
Hydraulic Motor (One)	R&R	Bucket, Angle, Tow	2.00 Hrs.
Motor Housing (One)	R&R	Bucket, Angle, Tow	1.50 Hrs.
Broom Brush	R&R	Bucket, Angle, Tow	2.75 Hrs.
Brush Core	R&R	Bucket, Angle, Tow	3.00 Hrs.
Bearing	R&R	Bucket, Angle, Tow	1.00 Hrs.
Valve Assembly	R&R	Bucket, Angle, Tow	1.50 Hrs.
Valve Coil (One)	R&R	Bucket, Angle, Tow	.25 Hrs.
Valve Cartridge (One)	R&R	Bucket, Angle, Tow	.40 Hrs.
Sprayer Pump	R&R	Bucket, Angle, Tow	.50 Hrs.
Motor/Core Drive Assy	R&R	Bucket, Angle, Tow	1.25 Hrs.
Hyd. Fitting (One)	R&R	Bucket, Angle, Tow	.25 Hrs.
Caster Assembly	R&R	Angle 32"	.40 Hrs.
Caster Assembly	R&R	Angle 26" & 30"	.25 Hrs.
Caster Assembly	R&R	Bucket	.30 Hrs.
Rubber Flap (One)	R&R	Bucket	.50 Hrs.
Volumizer	R&R	Bucket	.75 Hrs.
Gutterbroom Motor (One)	R&R	Bucket	.75 Hrs.
Gutterbroom (One)	R&R	Bucket	.25 Hrs.
Vacuum Motor	R&R	Bucket	1.00 Hrs.

PUMP PACKAGES FOR BROOMS

Hydraulic Hose (One)	R&R	All	.40 Hrs.
Hydraulic Coupler (One)	R&R	All	.25 Hrs.
Hydraulic Pump	R&R	PTO Pumps	.50 Hrs.
Hydraulic Pump		Mid & Front Pumps	1.00 Hrs
Chain Couplers	R&R	Front Pumps	.75 Hrs.
Pump Drive Shaft	R&R	Mid & Front Pumps	.75 Hrs.
Hyd. Fitting (One)	R&R	All	.25 Hrs.

MECHANICAL DRIVE BROOMS

Gearbox	R&R	All	1.20 Hrs.
Drive Shaft Input/gearbox	R&R	All	.30 Hrs.
Drive Shaft Output/gearbox	R&R	All	.75 Hrs.
Drive Chain	R&R	All	.75 Hrs.
Bearing (One)	R&R	All	.75 Hrs.
Sprocket (One)	R&R	All	1.00 Hrs.
Cylinder	R&R	All	.50 Hrs.
Cyl. + Overhaul	R&R	All	1.20 Hrs.
Hydraulic Hose (One)	R&R	All	.30 Hrs.
Hydraulic Coupler (One)	R&R	All	.25 Hrs.
Broom Brush	R&R	All	2.25 Hrs.
Broom Core	R&R	All	3.00 Hrs.

WALK BEHIND SWEEPER

*FOR ENGINE REPAIR: CONTACT LOCAL AUTHORIZED ENGINE DEALER

Broom Brush	R&R	Walk Behind Sweeper	.40 Hrs.
Broom Core	R&R	Walk Behind Sweeper	.50 Hrs.
Drive Chain (One)	R&R	Walk Behind Sweeper	1.20 Hrs.
V-Belt (One)	R&R	Walk Behind Sweeper	.25 Hrs.
Linkage Upper/Lower (One)	R&R	Walk Behind Sweeper	2.00 Hrs.
Shift Cable	R&R	Walk Behind Sweeper	1.50 Hrs.
Trans Axle	R&R	Walk Behind Sweeper	2.75 Hrs.
Gearbox Brush Head	R&R	Walk Behind Sweeper	3.00 Hrs.
Bearing Core (One)	R&R	Walk Behind Sweeper	1.00 Hrs.
Bearing Upper Brush	R&R	Walk Behind Sweeper	1.50 Hrs.
Idler Pulley (One)	R&R	Walk Behind Sweeper	.25 Hrs.
Pulley Drive / Driven (One)	R&R	Walk Behind Sweeper	.40 Hrs.
Sprocket Idler	R&R	Walk Behind Sweeper	.50 Hrs.
Sprocket Drive / Driven (One)	R&R	Walk Behind Sweeper	1.25 Hrs.

TOW BEHIND SWEEPER

*FOR ENGINE REPAIR: CONTACT LOCAL AUTHORIZED ENGINE DEALER

*FOR BRUSH HEAD REPAIR: USE BROOM REPAIR TIME ALLOWANCE

Hydraulic Pump	R&R	Tow Behind Sweeper	.50 Hrs.
Hydraulic Pump (Hydrostatic)		Tow Behind Sweeper	1.00 Hrs
Switch (One)	R&R	Tow Behind Sweeper	.75 Hrs.
Monarch System	R&R	Tow Behind Sweeper	.75 Hrs.
Actuator (One)	R&R	Tow Behind Sweeper	.25 Hrs.
Hydraulic Hose (One)	R&R	Tow Behind Sweeper	.40 Hrs.
Hyd. Fitting (One)	R&R	Tow Behind Sweeper	.25 Hrs.

HARLEY

REPAIR TIME ALLOWANCE

SKID STEER RAKES

Hydraulic Hose (One)	R&R	All	.50 Hrs.
Cylinder	R&R	All	.50 Hrs.
Hydraulic Motor (One)	R&R	All	1.00 Hrs.
Diverter Valve	R&R	All	1.00 Hrs.
Drive Sprockets	R&R	All	1.00 Hrs.
Chain	R&R	All	.50 Hrs.
Drive Side Bearing	R&R	All	2.50 Hrs.
Driven Side Bearing	R&R	All	.75 Hrs.
Hyd. Fitting (One)	R&R	All	.50 Hrs.
Drum	R&R	All	4.00 Hrs.
Roller Frame	R&R	All	4.00 Hrs.
Pivot Frame	R&R	All	1.50 Hrs.
Universal Mount	R&R	All	.50 Hrs.

TRACTOR RAKES

Hydraulic Hose (One)	R&R	All	.50 Hrs.
Cylinder	R&R	All	.50 Hrs.
Right Angle Gearbox	R&R	All	1.00 Hrs.
PTO Assembly	R&R	All	.50 Hrs.
Drive Sprockets	R&R	All	1.00 Hrs.
Chain	R&R	All	.50 Hrs.
Drive Side Bearing	R&R	All	2.50 Hrs.
Driven Side Bearing	R&R	All	.75 Hrs.
Chain Box Cover	R&R	All	.50 Hrs.
Drum	R&R	All	4.00 Hrs.
Roller Frame	R&R	All	4.00 Hrs.
Chain Box	R&R	All	2.50 Hrs.
Tractor Mounting Frame	R&R	All	3.00 Hrs.