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September 1980



Lubrication

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LUBRICATION MANUAL

IOWA

DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
MAINTENANCE DEPARTMENT

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Scheduled Maintenance

A motor equipment maintenance program, to be fully effective, must be designed to take advantage of all personnel contacts with the equipment. Drivers and operators are the first line of defense against equipment wear, failure, and damage. The party servicing equipment is certainly the second line of defense. The services which both categories perform, and reports which the operator passes on to his supervisor, will significantly curb the ultimate maintenance cost.

The third point of contact is the shop mechanic. The more thorough the reports he receives from the equipment operator, the more quickly will he be guided to sources and causes of trouble. Reports received from the equipment operator must be thorough, so that sources and causes of trouble can be located quickly. The fleet maintenance program, however, must not rely solely on him for detection of reporting of maintenance requirements. The maintenance supervisor must develop and plan his own scheduled "preventative maintenance" program for systematic servicing and inspection of equipment at predetermined mileage or engine hour intervals; guidelines are provided in the "Lubrication Recommendations" furnished for each location which comply with manufacturers requirements.

Service Station Servicing

Operators and drivers of motor equipment must be required to inspect the unit to which they have been assigned at the start and completion of their operating shift. Defects should be noted and reported that could cause the equipment to become damaged or unsafe.

Services that must be performed during each fueling of an equipment unit are to:

- a. check all oil level in crankcase;
- b. check tires for proper inflation and condition;
- c. check electrolyte in battery; and
- d. check radiator coolant level AFTER ENGINE HAS BEEN ALLOWED TO COOL.

Scheduled Maintenance

Servicing the odometer or hour meter is the key to the entire program, and all personnel associated with the operation and maintenance should see that these instruments are in satisfactory operating condition.

Scheduled maintenance inspections normally are divided into three classes:

Class A. Includes all lubrication and mechanical services recommended by the manufacturer, plus inspection and checking of all components and parts related to the safe operation of the equipment. Class B. Includes all of the above elements plus a check and inspection of components having a high rate of wear or deterioration or a proven need for adjustment.

Class C. Includes all elements of A and B plus a thorough inspection of all remaining components and assemblies of the unit.

Equipment Assignment

Asssignment of equipment to a competent operator and alternate operator should be made to insure responsibility for care of the unit. Familiarization with the equipment and attachments must be assured to obtain a high standard of efficiency. Abuse of equipment or neglect should be reported to the supervisor and it is a responsibility of all persons using state equipment to keep it in a clean presentable condition.

Lubrication

Today's vehicles of the passenger carrying light duty classification require very little greasing of steering components or chassis parts. The manufacturers recommendations are listed by class in the "Lubrication Recommendations" for each specific make, year and model vehicle.

0il Change

Crankcase oil and filter changes vary with the class of equipment and the type operation it is subjected to. Specific intervals are listed for each class of equipment and the description of products to be used. This information meets with the manufacturers requirements in prolonging the life of the equipment and is within all warranty conditions they have set. When changing oil from manufacturers oil to D.O.T. oildo not mix. Flush out all manufacturers oil before refilling with D.O.T. oil.

Other Services

Emission controls, PCV valves, pumps and other components required by law shall be serviced and kept operative throughout the life of the vehicle and shall not be modified, removed or rendered inoperative.

Wheel bearings, brakes and brake adjusters shall be serviced annually and wheel bearings repacked with grease. Brake adjustments should be performed according to the recommendation of the manufacturer either by mileage, time, or need.

Service Bulletins

Service bulletins will be prepared and issued as supplemental information to the "Lubrication Recommendations", as new developments occur in the Department of Transportation fleet. These bulletins should be distributed to operators and mechanics and then filed with this book for future reference.

Following are general recommendations for various phases of equipment care:

Recommend use of magnetic drain plug on transmissions, transfer cases and differential case.

Greasing

Greasing of cars, panels, and pickups is to be done at a maximum of 4,000 mile intervals, trucks at 2,000 miles or 100 hours and after storm or extreme conditions, motor graders, and crawler type tractors and draglines daily. However, if equipment is in need of a greasing before this mileage or period has been acquired, see that it is greased. When the specific recommendations for any unit state otherwise, follow that recommendation. Grease fittings should be cleaned before and after greasing. HD and EHD shall be greased every 500 miles.

For miscellaneous equipment for which there is no lubrication sheet, follow manufacturer's instructions. If in doubt, take your problem up with your foreman or mechanic.

Any unit in water or excessive dust or sand, is to be greased daily. Grease fittings should be cleaned before and after greasing.

Greasing service which is required only at time of assembly, or which involves adjustment of vital parts is left to the mechanic and therefore not listed generally.

Multi-purpose grease is a specially compounded grease to be used for wheel bearings, chassis, and water pump. It should not be used for critical lubrications calling for an extreme pressure grease. When special grease not stocked by Inventory Management is required in small quantities, it should be purchased locally.

Transmission Lubricants

Seasonal change of summer and winter grades of transmission and differential lubricants are to be made somewhat in line with the weather conditions, normally during the months of <u>April</u> and <u>October</u>. This will be true of all equipment unless recommendations for specific equipment state otherwise or unless seasonal use of equipment eliminates the need of change of grades or lubricants. Recommend use of magnetic drain plug on transmissions and transfer case and differential case. Transfer cases shall be checked daily when unit is being used for snow removal operation.

Oil Change

Our equipment shall be fitted with oil filters and approved type air cleaners, and these units are to be serviced as required by the accessory manufacturer. If it is not so equipped, check with the District Mechanic. Please note the following recommendations as to oil changes:

Oil and filter pack must be changed, regardless of color, at a maximum of 4,000 miles in cars, pickups and light duty trucks. Class 4, 5, and 6 and at a maximum of 60 hours on motor graders and tractor equipment. Lubricating oil in four-wheel-drive trucks rotary snow plows, pulvi-mixers, etc., (in all units assigned to heavy maintenance operations or extremely dusty conditions) must be changed regardless of color at a maximum of 500 miles or 30 hours. (See Service Bulletin #2, for Idle Equipment) Service air cleaners daily or twice daily if necessary. Watch oil and filters carefully. Watch oil gauge and if pressure drops, check crankcases for oil pump clogging. Do not operate motors with oil pressure below normal unless mechanic gives you special permission to do so. Oil is to be checked daily for proper level. Drain crankcase while oil is hot. Report discoloration of oil which may be caused by raw fuel or water leaking into crankcase. On late model H.D. four-wheel drive trucks, check individual lubrication sheets, special notes.

Clean sump thoroughly when changing element. Small sander motors, power broom motors, and kindred equipment should have the oil and filter pack changed daily, and air cleaner and breather equipment serviced twice daily if needed.

Wheel Bearings

It is essential that wheel bearings be checked periodically for grease requirements and adjustments. See your mechanic for servicing of wheel bearings. Coat inside of hubs and spindles with thin coating of grease when packing. Do not over-lubricate. All wheeled vehicles shall be checked annually for wheel bearing lubrication, brake linings and adjustments, both "A" and "B" equipment.

Needle Bearing Universal Joints

Use low pressure hand gun only such as the #4015-A Alemite gun, to avoid undue pressure which will destroy oil seals for which lubrications sheets recommend multi-purpose grease.

Hypoid Oil (Do not use in Transmission and Transfer Case)

Points at which hypoid oil is used require watching. When oil turns a yellow color, immediately drain, flush and replace with fresh oil. Kerosene is satisfactory for flushing hypoid oils.

Transmission and Differential Lubricants

Maintain proper oil levels in the transmission and differential. Do not add our oils to those furnished to you in new machines. These oils may not mix without causing damage. Do not overfill gear boxes. Drain, flush, and refill with our own lubricants as soon as the manufacturer's recommendations permit. Units without drain plugs should be cleaned and flushed using a Rose suction gun. Recommend use of magnetic drain plug on transmission and transfer case.

Crankcase Ventilation Valve

Positive crankcase ventilation valve should be replaced at 12,000 miles if it is not type that can be cleaned.

Service Bulletins

For further information regarding the care and maintenance of motor vehicles and equipment consult the service bulletin.

NOTE: At the time seasonal lubrication services are performed, we can prevent a great deal of glass breakage, if all glass channels are coated with a silicone spray. This material is avaialable at all automotive jobbers in small pressurized containers.

LUBRICANTS

Heavy Duty MIL-L-46152 Lubricating Oil	SAE Service Desingation	<u>Package</u>	Sold By
SAE - 10W-30 SAE - 20W-40 SAE - 50 SAE - 30 H.D.	SE/CC SE/CC SE/CD	220 qts. 220 qts. 60 qts. 220 qts.	qt. qt. qt. qt.
Transmission Gear Oil API GL-1	& GL-2		
SAE - 90 SAE - 140		15 gal. 15 gal.	drum drum
Hypoid Differential Oil, MIL-L-	-2105C (Differe	ntials only)	
SAE - 80W-90 SAE - 85W-140		15 gal. 15 gal.	drum drum
Hydraulic Hoist Oil			
Grade - 5W		30 gal.	drum
Hydraulic Transmission Fluid		15 gal.	drum
Automatic Transmission Oil;			
Dexron 015-022700 015-022710		qt. 15 gal.	qt. gallon
<u>Others</u>			
Ford Lub., Hyd. M2C53A-293-62 Ford Lub M2C41 -015-02	27900	5 gal. 5 gal.	can can
Ford Lub., M2C41 -015-02 Chrysler Corp. Diff. Additive John Deere, Hyd. Trans 293	e 219 - 492750	qt. 5 gal.	qt. can

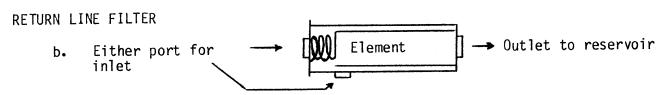
Hydraulic System Oil Filters (gasoline powered)

Trucks with hydraulic systems are equipped with Gresen filters in the pressure side and others in both the pressure and suction lines. These are Gresen filters and those in the suction side require a #100 mesh screen which should be removed, checked and cleaned every 6 months. Those in the pressure, or return line are #33 micron paper, throw-away type replaceable every 6 months. Lenz filters are needed for all diesel M.D. trucks, 1978 and later.

Mounting and installation of filter elements are as follows:

a. Outlet to pump Element OOO ← Either port for inlet from reservoir

Inlet port is the side or bottom port and outlet port is from top or base of filter with spring at bottom of canister. This application uses a 100 wire mesh element, Gresen No. 3280-001, IDOT Stock No. 430-010025. This element may be cleaned and reused.



Inlet is the side or top port and outlet is bottom port of filter with spring at top of base of filter. This application uses a 33 micron paper element, Gresen No. 3278-001, IDOT Stock No. 430-010000 which cannot be cleaned and reused.

Seals used with the suction type filter installation are Gresen No. 3282-001, IDOT Stock No. 430-010050 and Gresen No. 3060-001, IDOT Stock No. 430-008000.

Seal used with return line filter installation is Gresen No. 3055-001, IDOT Stock no. 430-007925.

These filters have been correctly installed prior to issue, however, the above information is furnished for guidance of all concerned when filters have to be removed for servicing and are reinstalled.

Diesel powered trucks are equipped with Lenz Filters. 1978 and older diesel trucks use Lenz filter #800 PR-8-13; DOT Stock No. 221000 798.

Diesel trucks 1979 and newer use Lenz filter 10 micron #880 PR-8-15; DOT Stock No. 221000 800.

Batteries

Automotive batteries can be extremely dangerous and all personnel should be instructed in proper procedures for the use of jumper cables when attempting to start a vehicle with a dead battery and in battery charging. During charging, the chemical process creates hydrogen which in combination with oxygen in the air could cause an explosive mixture which will readily ignite with any spark. In order to minimize the possibility of an explosion and reduce the danger of injury, the following cautions and procedures should be observed.

A. Use of Jumper Cables

- 1. Use safety goggles if available.
- 2. Check battery vent caps to be sure vent holes are open on both the dead battery and on the battery being used to provide the booster charge.
- 3. It is important when starting a vehicle that the vent caps are in place and tight to avoid electrolyte spray.
- 4. Inspect dead batteries to assure battery is not frozen (frozen batteries may explode when charge is applied-frozen batteries must be thawed before charging).
- 5. Connect one end of the red lead positive connector to the positive terminal in the dead battery.
- 6. Connect the other end of red lead to positive terminal on the good battery.
- 7. Connect one end of black connector to negative terminal of the good battery.
- 8. Connect other end of black connector to a good ground on the engine at least 12 inches away from the battery. Connection must be made to a heavy piece of metal such as a head bolt, manifold bolt, etc. (do not use connections to air cleaners or thin metal projections).

B. Battery Charging

- 1. Use safety goggles if available.
- 2. It is important when charging batteries that the vent holes in the caps are open and the caps are in place and tight to avoid electrolyte spray.
- 3. Be sure switch on battery charger is off and selector for 6 or 12 volt is set for proper voltage.
- 4. Connect clamps to battery terminal posts using care to assure positive lead to positive terminals and negative lead to negative terminal.
- 5. Turn on switch to battery charger.
- 6. When battery is fully charged, turn switch off on battery charger before disconnecting leads from the battery terminals.

These procedures are designed to minimize the possibility of igniting gases should a spark occur and, if an explosion does occur, personal danger would be mimimized by the individual being away from the battery. In the event any personnel are involved in a battery explosion, it is important for all of the acid to be washed off immediately and the eyes thoroughly flushed. Immediately after flushing, the assistance of a physician or a hospital should be obtained.

Anti Freeze

Permanent type anti freeze is used in the cooling systems of vehicles of the fleet and is available through the central warehouse. Protection is specified for a minus twenty eight degrees, (-28°F) and all units should be checked with a hydrometer on or about October 15 each year. A 50-50 mixture of anti freeze and water should be in the radiator year around and should be completely changed every two years. Add rust inhibitor each year that the coolant is not completely changed.

When changing coolant, the system should be thoroughly flushed, all hoses inspected and an anti rust additive added to the new solution. Nalcool 2000 inhibitor is recommended and is available through the central warehouse.

Do not attempt to salvage anti freeze that has been in use for two years, it should be disposed of so it cannot be put back in a cooling system.

Note: Be sure to drain roller drums or any other equipment using water, at this time to prevent freeze damage.

Warranty

Arrangements with suppliers of Iowa Department of Transportation equipment provide for warranties beginning when issued to the field. All locations should report potential warranty problems to District Mechanics or Office Managers who in turn will contact the Office of Equipment Services in Ames. An identifying equipment number with a description of the deficiency or problem should be furnished and arrangements will be made with servicing dealers or the manufacturer to make correction.

Tires

The fleet has a wide variety of types of tires on equipment, fiber-glass, nylon, rayon, bias belted and radial in both conventional and mud or snow tread. Radials must not be mounted on a vehicle of the first six classes of equipment along with any nylon, rayon or bias belted. These classes of equipment must be all radial, because steering geometry and control of the vehicle is changed when tires are mixed.

Rotation of radial tires on light vehicles is different than other type tires, as radials are meant to rotate in the same direction as when installed originally. Keep them on the same side of the vehicle and move from front to rear. An exception to this rule is on front wheels of heavy trucks, these can be moved from one side to the other.

All tires are stamped with a recommended tire inflation pressure which should be maintained for proper tire wear and handling of vehicle.

Cleaning of Vehicles

Interior of vehicles should be cleaned by vacuum cleaner, brush or air pressure hose. Washing with liquids creates rusting of the floor boards under the mats and is not recommended.

Operators are responsible to maintain the cleanliness of the vehicle they are driving and to insure a presentable image to the public.

Facilities for washing are available at the Highway Maintenance garages, the Central Motor Pool at Ames, and drive thru washers throughout the state, which charge up to approximately \$2.00 and which is reimburseable through the payroll sheets. Service stations are not recommended because of the high cost for this service.

Diesel Fuel

Diesel engine equipment being used in winter operations should use a 50-50 mixture of number 1 and 2 diesel fuel or straight number 1. Use of number 2 at low temperatures will "jell" in tanks and filters and stop running.

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Equipment	Cars, Station Wagons	Make	American Motors
Class	1, 2	Model	Ambassador, Matador

UNIT	KIND OF LUBBICANT	S	AE	DEMARKS
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10w40	10W40	7,500 miles
Automatic Transmission	Dexron			24,000 miles
Differential- Conventional	Hypoid Oil	80W90	80W90	
Differential Twin Grip	Limited Slip Gear Lube			
Power Steering	Dexron			
General Chassis	Multi-purpose lube			4,000 miles
Exhaust Control Valve	Heat Valve Lubricant			
Brakes	H.D. Disc Brake Fluid			DOT - 3
Oil Filter				4,000 miles
Fuel Filter				12,000 miles
Charcoal Cannister Filt	er			12,000 miles
PCV Valve				12,000 miles
Air Cleaner				12,000 miles

Equipment	Cars, Station Wagons	Make	Chevrolet, Pontiac
Class	1, 2	Model	All

110117	KIND OF LUBRICANT	SA	É		
UNIT		Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	7,500 mi.	
Automatic Transmission	Dexron	Drain, Repevery 24,0	l. Filter 00 miles	& Refill	
Transmission	Transmission Oil	90	90		
Differential	Hypoid Oil as Std. Posi-trac diff. Use posi-trac lube	80W90	80W90		
General Chasis	Multi-purpose grease		-	4,000 miles	
Power Steering	Dexron			Only front	
Wheel Bearings	Multi-purpose grease			Only front wheels annual	
Air Cleaner				12,000 miles	
			Marian		

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Equipment Cars, Station Wagons	Make Chrysler, Plymouth, Dodge
Class1, 2	Model All

UNIT	KIND OF LUBRICANT	S	AE	REMARKS
		Summer	Winter	
Engine	Lube 0il	10W40	10W40	7,500 miles
Automatic Transmission	Dexron	Drain, re every 32,	l. filter 000 miles	& refill
Differential	DOT 219-492750			
General Chassis	Multi purpose grease			4,000 miles
Power Steering	Chrysler #208 4329 Mopar			locally Only front
Wheel Bearings	Multi purpose grease		WI	eels Annually
Air Cleaner				12,000 miles
Brakes	Heavy duty brake fluid			

Equipment Cars, Station Wagons	Make Ford
Class1,2	ModelAll

UNIT	KIND OF LUBRICANT		AĖ	REMARKS
		Summer	Winter	NEWANNS
Engine	Lube 0il	10W40	10W40	7,500 miles
Automatic Transmission	Type F	refill ev	pl. filter ery 32,000	and miles
Differential	DOT 219 492750			
General Chassis	Multi purpose grease			4,000 miles
Power Steering	Type F			
Wheel Bearings	Multi purpose grease		whe	Only front els annually
Air Cleaner				12,000 miles
Brakes	Heavy duty Brake Fluid			
Oil filter				4,000 miles

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Equipment	1/4 Ton Pickup	Make _	Ford
Class 3		Model _	Courier

UNIT	KIND OF LUBRICANT		SAE		
		Summer	Winter	REMARKS	
Engine	Lube Oil	10W40	10W40	4,000 miles	
Transmission	Hypoid Oil	90	90		
Steering gear	Transmission Oil	90	90		
Differential	Hypoid Oil	80W90	80W90	See Note A	
General Chassis	Multi-pupose grease			4,000 miles	
Automatic Transmission	Trans. fluid	Type F			
Brakes	H.D. Brake fluid				
Air Cleaner	Dry Type			12,000 miles	

Note A: When checking lubricant level, the axle must be 16 inches above normal curb attitude.

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Equipment	1/4 Ton Pickup	Make	Chevrolet
Class	3	Model	Luv

UNIT	KIND OF LUBRICANT	S	DEMARKS	
		Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	4,000 miles
Automatic Transmission	Dexron R-II		oplace fil ,000 miles	ter & refill
Transmission	Engine Oil	SAE 30	SAE 30	See Note A
Differential	Hypoid	80W90	80W90	See Note B
General Chassis	Multi-purpose grease			4,000 miles
Steering Gear	Hypoid	80W90	80W90	
Wheel Bearings	Multi-purpose grease			See Note C
Distributor Adv. Mechan	ism Lube 0il	10W40	10W40	
All Linkage Pivot Points	Lube 0il	10W40	10W40	
Air Cleaner				See note D @ 30,000 mil
Hydraulic Clutch	Heavy Duty Brake Fluid			DOT 3
Hydraulic Brakes	Heavy Duty Brake Fluid			DOT 3
Parking Brake Cables	Multi-purpose grease			
			!	

Note A: Replace manual transmission lubricant after first 7,500 miles and every 30,000 miles thereafter.

Note B:

Note C:

Replace lubricant after first 7,500 miles and every 30,000 miles thereafter. Repack front and rear wheel bearings every 30,000 miles. Operation of vehicle in dusty areas will necessitate more frequent element replacement. Note D:

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Equipment 1/2 & 3/4 Ton Pickups and Vans	Make	Dodge
Class3,4, & 5	Model	D100, D200, B200, D30

UNIT	KIND OF LUBRICANT	SAE		DEMARKS
	KIND OF EUDICAN	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	4,000 miles
Automatic Transmission	Dexron	every 32	pl. filte ,000 miles	r, refill
Differential	Hypoid Differential Oil	80W-90	80W-90	Note "A"
General Chassis	Multi purpose grease			4,000 miles
Power Steering	Mo-Par #208 4329			
Steering Gear	Transmission Oil	90	90	0.7.6
Wheel Bearings	Multi-purpose grease			Only front Wheels
Air Cleaner				12,000 mile
Brakes	Heavy Duty Brake Fluid			

Note A: Sure grip differential oil on all models use lubricant DOT stock number 219 492750.

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LUBRICATION & MAINTENANCE

Equipment	1/2 & 3/4 Ton Pickups, Vans	Make	Ford	
Class 3,4	· , & 5	Model	F100, F150, F250	

UNIT	WIND OF LUBBIOANT	SAE		REMARKS	
	KIND OF LUBRICANT	Summer	Winter	NEWANKO	
Engine	Lube 0il	10W40	10W40	4,000 miles	
Automatic Transmission	Type F	Drain, repevery 24,0	l. filter 00 miles	refill	
Transmission	Transmission Oil	90	90		
Differential	Hypoid Oil	80W-90	80W-90	See note "A"	
General Chassis	Multi purpose			4,000 miles	
Power Steering	Power steering fluid			D6AZ-1958 2-A	
Steering Gear	Ford Lube			C3AZ-1957 8-A Only front	
Wheel Bearings	Multi purpose grease			wheels annual	
Air Cleaner				12,000 miles	
Brakes	Heavy Duty Brake Fluid				

Note A: For Equa-lock axles use Ford CIAZ-19580-E or F with 1 oz. of additive Ford #C1AA-19B546A, per pint of lube. Purchase locally.

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Equipment	Crew Cabs and Scouts	Make International
Class	5 & 6	ModelIntnl 1210 and Scout

UNIT	KIND OF LUBBICANT	SAE		REMARKS
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	4,000 miles
Differential	Hypoid Oil	80W90	80W90	
General Chassis	Multi purpose grease			4, 000 miles
Clutch Release Bearing	Multi purpose grease			As required
Power Steering	Dexron			
Steering Gear	Transmission Oil	90	90	
Propeller Shaft Center Bearing	Multi purpose grease			
Transmission	Transmission Oil	90	90	
Automatic Transmission	Dexron		Drain, cl @ 24,000	
Distributor Shaft Distributor Shaft	Lube Oil Multi-purpose grease	10W 40	10W40	At plug at grease cup
Propeller shaft slip joint	Multi-purpose grease			
Propeller Shaft Universal Joint	Multi-purpose grease			Hand gun See note "A
Air cleaner	,, <u>a</u> ,,,,			12,000 mile

Note A: Remove grease plug, insert grease fittings and fill with lubricant. Replace grease plug.

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Equipment	Crew Cab	Make	Dodge
Class	6	Model	D 200, D 300

UNIT	KIND OF LUBBIOANT	SAÉ		DEMARKS
	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	Change at 4,000 miles
Transmission	Transmission Oil	90	90	
Differentials	Hypoid Differential Oil	80W90	80W90	Use additive limited slip
General Chassis	Multi-purpose grease			Service at 1,000 miles
Steering Gear	Hypoid Differential Oil	80W90	80W90	
Needle Bearing Universal Joint	Multi-purpose grease			Hand gun
Air Cleaner- Oil Bath	Lube Oil	10W40	10W40	1,000 miles
Front Axle Universal Drive Joint & Steer. Kn	uckle - Multi-purpose grease			1,000 miles
Transfer Case	Transmission Oil	90	90	
Winch	Transmission Oil	90	90	
Power Steering	Mo-Par #208 4329			
			<u> </u>	

^{*} Limited slip additive DOT #219-650,000.

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Equipment Crew Cabs	Make	GMC
Class _6	Model	TC 30943

UNIT	KIND OF LUBRICANT		SAE		
ONT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	4,000 miles	
Transmission	Transmission Oil	80W90	80W90		
General Chassis	Multi purpose grease			4,000 miles	
Differential	Hypoid differential oil	80W90	80W90		
Power Steering	Dexron				
Wheel Bearings	Multi purpose grease			Front Wheels	
Air Cleaner	Dry type			12,000 miles	
Brakes	DOT 3				
		·			
				·	

Equipment	Truck, M.D. Diesel	Make	Ford 1978 and Newer
Class7		Model	F7000, LN7000

UNIT	KIND OF LUBRICANT	SAE		DE114 DVG	
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine Diesel	Lube Oil	10W40	10W40	Chg. oil & filte every 100 hrs.	
Liighic bresci	Lube 011	100110	100140	CVCI y 100 III 34	
Transmission	Engine Oil	50	50	Annually	
Differential	Hypoid Differential Oil	80W90	80W90	Clean vent chg. grease annually 100 hrs or after	
General Chassis	Multi-purpose grease			storms	
Power Steering Unit	Type F Automatic Transmission				
Universal Joint Needle Bearings	Multi-purpose grease			Hand Gun Only	
Propeller Shaft Slip Joint	Multi-purpose grease				
Air Cleaner				Change when indicated	
PCV Diaphram				Change annually	
Front and Rear Wheel Bearings	Multi-purpose grease			Clean and pack annually	
Differential ELec. Shaft Unit	Hoist Oil	5W	5W		
Hydraulic Pump Chain Driven Case	Dexron Automatic Trans.			100 hours	
Hydraulic System	Hydraulic Hoist Oil	5W	5W		
Hydraulic Line Filter				Annually	
Linkage-Clevis Pins, Pivot & Sliding Surf.	Lube 0il	10W40	10W40		
Fuel Filter			-	Annually	
Water Separator				Inspect Daily	

EquipmentTruck MD gas	Make	International
Class8	Model	1600, 1700

KIND OF LUBRICANT	Summer		
	Gammer	Winter	REMARKS
Lube 0il	10W40	Char	ige oil & filter at 100 hours.
Lube 011	100.10		Change
Transmission Oil	90	90	Annually
Hypoid Differential Oil	80W90	80W90	Clean vent Change Annuall 100 hours or
Multi purpose grease			after storm
Dexron			
Hypoid Differential Oil	80W90	80W90	
Multi purpose grease			Hand gun only
Multi purpose grease			
Lube oil	10W40	10W40	As Needed
Lube oil	10W40	10W40	
Multi purpose grease			Sparingly Hand gun only
Multi purpose grease			Clean and pack Annually
Hoist oil	5W	5W	
Heavy duty brake fluid DOT #3			
			Sparingly Hand gun only
			Sparingly Hand gun only
	10W40	10W40	
Eude off			Annually
	Hypoid Differential Oil Multi purpose grease Dexron Hypoid Differential Oil Multi purpose grease Multi purpose grease Lube oil Lube oil Multi purpose grease Multi purpose grease Multi purpose grease	Hypoid Differential Oil 80W90 Multi purpose grease Dexron Hypoid Differential Oil 80W90 Multi purpose grease Multi purpose grease Lube oil 10W40 Lube oil 10W40 Multi purpose grease Multi purpose grease Hoist oil 5W Heavy duty brake fluid DOT #3 Multi purpose grease Multi purpose grease	Hypoid Differential Oil 80W90 80W90 Multi purpose grease Dexron Hypoid Differential Oil 80W90 80W90 Multi purpose grease Multi purpose grease Lube oil 10W40 10W40 Lube oil 10W40 10W40 Multi purpose grease Multi purpose grease Hoist oil 5W 5W Heavy duty brake fluid DOT #3 Multi purpose grease Multi purpose grease

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Equipment	Truck M.D.	Make	Dodge	
Class	8	Model	D400 & D500	

Engine Lube 0il 10W40 10W40 Chang 100 h Transmission Transmission 0il 90 90 Differential Hypoid Differential 0il 80W-90 80W-90	ce ever
Engine Lube 0il 10W40 10W40	ours ce ever
Differential Hypoid Differential Oil 80W-90 Servi General Chassis Multi purpose grease 100 h Steering General Hypoid Differential Oil 80W-90 80W-90 Universal Joint Bearing Multi purpose grease Hand Propeller Shaft, Slip Joint or Center Bearing Multi purpose grease Hand Air Cleaner Oil Bath Lube Oil 10W40 10W40 100 h Air Cleaner Power Steering Mopar #208 4329 Oil Filter 100 h	
General Chassis Multi purpose grease 100 h Steering General Hypoid Differential Oil 80W-90 80W-90 Universal Joint Bearing Multi purpose grease Hand Propeller Shaft, Slip Joint or Center Bearing Multi purpose grease Air Cleaner Oil Bath Lube Oil 10W40 10W40 10W40 100 h Air Cleaner Dry Type Mopar #208 4329 Oil Filter 100 h	
General Chassis Multi purpose grease 100 h Steering General Hypoid Differential Oil 80W-90 80W-90 Universal Joint Bearing Multi purpose grease Hand Propeller Shaft, Slip Joint or Center Bearing Multi purpose grease Hand Air Cleaner Oil Bath Lube Oil 10W40 10W40 100 h Air Cleaner Proper Steering Mopar #208 4329 Oil Filter 100 h	
Universal Joint Bearing Multi purpose grease Hand Propeller Shaft, Slip Joint or Center Bearing Multi purpose grease Hand Air Cleaner Oil Bath Lube Oil 10W40 10W40 100 h Air Cleaner Dry Type Power Steering Mopar #208 4329	
Joint Bearing Multi purpose grease Hand Propeller Shaft, Slip Joint or Center Bearing Multi purpose grease Hand Air Cleaner Oil Bath Lube Oil 10W40 10W40 100 h Air Cleaner Dry Type Power Steering Mopar #208 4329 Oil Filter 100 h	
Joint or Center BearingMulti purpose greaseHandAir CleanerOil BathLube Oil10W4010W40100 hAir CleanerDry TypeMopar #208 4329100 hOil Filter100 h	gun
Oil Bath Lube Oil 10W40 10W40	gun
Power Steering Mopar #208 4329 Oil Filter 100 h	ours
Brakes H.D. Brake Fluid DOT 33	ours

Equipment Truck M.D. gas	Make Ford	
Class8	Model All models 1966 through 1976	,)

	KIND OF LUBRICANT	SAE		REMARKS	
UNIT		Summer	Winter	·	
Engine Gasoline	Lube Oil	10W40	10W40 C	hange oil & Fil- er every 100 hrs.	
Transmission	Trans Oil	90	90	Prior to 1972 change Annual*	
Differential	Hypoid Differential Oil	80W-90	80W-90 C	lean vent, change grease annually	
General Chassis	Multi purpose grease			100 hours or after storm	
Power Steering Unit	Type F Automatic Transmission				
Universal Joint Needle Bearings	Multi purpose grease			Hand gun only	
Propeller Shaft Slip Joint	Multi purpose grease				
Air Cleaner Oil Bath	Lube 0il	10W40	10W40	As needed	
Distributor Bushing	Lube 0il	10W40	10W40	Clean & pack	
Front and Rear Wheel Bearings	Multi purpose grease		·	annually	
Differential Elec. Shifting Unit	Hoist Oil	5W	5W		
Hydraulic Pump Chain Drive Case	Dexron Automatic Transmission				
Hydraulic System	Hydraulic Hoist Oil	5W	5W	Change Annuall	
Hydraulic Line Filter				Annually	
Linkage-Clevis Pins, Pivot & Sliding Surf.	Lube Oil	10W40	10W40		

^{* 1972} and later use 50W lube oil.

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Equipme	nt Truck M.D. gas	Make	Chevrolet GMC
Class	8	Model	A11

UNIT	KIND OF LUBRICANT	S	SAE		
		Summer	Winter	REMARKS	
Engine	Lube Oil	10W40	10W40	hange every 100 hours	
Transmission	Transmission Oil	90	90		
Differential	Hypoid Differential Oil	80W-90	80W-90	100 hours or	
General Chassis	Multi purpose grease			after storms	
Steering Gear	Hypoid Differential Oil	80W-90	80W-90		
Power Steering Unit	Dexron			100 miles	
Propeller Shaft Slip Joint	Multi purpose grease			or after storms	
Universal Joint Needle Bearings	Multi purpose grease		,	Hand gun only	
Propeller Shaft Center Bearing	Multi purpose grease		·		
Air Cleaner Dry Type				As needed	
Air Cleaner Oil Bath	Lube 0il	10W40	10W40	As needed	
Rear Axle Electric Shift	Hoist Oil	5W	5W	At 100 hours	
Oil Filter				At 100 hours	
Fuel Filter				Annually	
Hydraulic Filter			·	Annually	

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Equipment	Truck	Make	Ford Tandem
Class	9	Model	CT850, LTS900, LT900

HANT	KIND OF LUBBIOANT	S	AE	DE114.DV0
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine - Gas & Diesel	Lube Oil	10W40	10W40	60 hrs.
Distributor Shaft	Lube 0il	10W40	10W40	
Dist. W/Tac Drive	Multi-purpose grease			
Air Cleaner - Dry filter				as needed
<u> Air Cleaner - Oil Bath</u>	Lube oil	10W40	10W40	
Automatic Transmission	Type F			
Transmission	H.D. Lube Oil	50	50	
Aux. Transmission	Transmission Oil	90	90	
Differential Front and Rear	Hypoid Oil	80W-90	80W-90	·
Propeller Shaft	Multi-purpose grease			
Universal Joints	Multi-purpose grease			
Steering Gear	Hypoid Gear Lube	80W-90	80W-90	
Power Steer	Type F			
Clutch Release Sleeve	Multi-purpose grease			Sparingly
Hydraulic System	Hoist 0il	5W	5W	11y - Do not
Alcohol Evaporator	Denatured Alcohol		overfill	- keep 2/3 ful
Air Tanks				t if possible.
Compressor Air Filter				60hhours
General Chassis	Multi-purpose grease			60 hours
Fuel Filter				Annually

Air Dryer

Dessicant

Annually

Hydraulic Filter

Annually

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Equipment Truck	MakeInternational
Class 9, 11	ModelVCOF 192A

UNIT	KIND OF LUBRICANT	SAE	AE	DEMARKS
	KIND OF EDBRICARY	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	60 hours
Distibutor Shaft Felt	Engine Oil	10W40	10W40	drops
Air Cleaner- Oil Bath	Engine Oil	10W40	10W40	
Transmission	Transmission Oil	90	90	Change annuall
Differential Front & Rear & Power Divider	Hypoid Oil	80W-90	80W-90	Change annuall
Steering Gear	Hypoid Oil	80W -90	80W-90	
Power Steering	Dexron			Change filter every 2,000 mi
Compressor Air Strainer				See Note "A"
Air Tank				See Note "B"
General Chassis	Multi-purpose grease			
Propeller Shaft	Multi-purpose grease			
Universal Joint	Multi-purpose grease			Hand gun only
Clutch Release Sleeve Wheel Bearings	Multi-purpose grease			Sparingly Clean & pack
Front & Rear	Multi-purpose grease			annually
Linkage Pivot Pins & Sliding Surfaces	Lube 0il	10W 40	10W 40	Sparingly
				,

NOTE A: Remove compressor air cleaner, wash all parts, saturate curled hair with engine oil and shake excess oil from curled hair before installation.

NOTE B: Drain the reservoirs daily in cold weather and once a week in warm weather.

Equipment	Truck 4 X 4	Make	Ford	
Class 10		Model	1962 thru 1970 Marmon-Herrington & Howe-CoTeman	

UNIT	KIND OF LUBRICANT	SAE		DEMARKS
Engine Caterpiller	NIND OF EUDINICANT	Summer	Winter	REMARKS
Diesel	Lube 0il	10W40	10W40	60 hours
Engine Gasoline	Lube Oil	10W40	10W40	60 hours
Transmission	Lube 0il	50	50	Change Annually
Iransfer Case (4 X 4 c	only) Transmission Oil	90	90	
Front & Rear	Hypoid Differential Oil	80W-90	80W-90	Change Annually
General Chassis Front Axle	Multi-purpose grease			60 hours
Pivot & Yokes	Multi-purpose grease			Sparingly
Steering Gear	Hypoid Differential Oil	80W-90	80W-90	
Power Steering Unit Universal Joint	Type F			
Needle Bearing Propeller Shaft	Multi-purpose grease			Hand gun only
Slip Joint Air Cleaner-	Multi-purpose grease			
Oil Bath	Lube 0il	10W40		y type air eaner-see "A".
Distributor Shaft	Lube Oil	10W40	10W40	
Air Compressor Filter				See note "B"
Air Tanks				See note "C"
Alcohol Evaporator				See note "D"
Wheel Bearings				Clean & pack annually
Fuel Filters				Semi annually
Oil Filter				60 hours
Fuel/Water Separator				Drain Daily

Note "A": Check Manufacturer's Specifications.

Note "B": Inspect Element, Clean & Replace if necessary every 60 hours.

Note "C": Drain water from air tanks daily.

Note D: Keep jar 2/3/ full of pure methanol 188 proof alcohol, free from inhibitor, clean air intake strainer every 60 hours.

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Equipment	Truck 4 X 4	Make	International
Class	10	Model	1700 & 1800 & CO192 H.D.

UNIT	KIND OF LUBRICANT	SAE		DEMARKS	
ONII	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine (gas & diesel)	Lube Oil	10W40	10W40	Chg. oil & filte every 60 hrs.	
Transmission	Transmission Oil	90	90	See Note "A"	
Differential	Hypoid Differential Oil	80W90	80W90	Clean vent Chg. Annually	
General Chassis	Multi-purpose grease			60 hrs. after storm	
Power Steering Unit		10W40	10W40 Chg	oil & filter y 20,000 miles	
Steering Gear Universal Joint	Hypoid Differential Oil	80W90	80W90		
Needle Bearings Propeller Shaft	Multi-purpose grease			Hand gun only	
Slip Joint Air Cleaner	Multi-purpose grease				
Oil Bath	Lube Oil	10W40	10W40		
Distributor Bush.	Lube 0il	10W40	10W40		
Distributor Tachometer Drive	Multi-purpose grease			Sparingly Hand gun only	
Front & Rear Wheel Bearings	Multi-purpose grease			Clean & Pack Annually	
Vacuum Brake Cyl Piston Type	Use vacuum cylinder oil				
Brakes	DOT #3 Heavy duty brake fluid			DOT #3	
Clutch Throwout Brg.	Multi-purpose grease			Sparingly Hand gun only	
Propeller Shaft Center Bearing	Multi-purpose grease			Sparingly Hand gun only	
Linkage-Clevis Pins Pivot & Sliding Surf.	Lube 0il	10W40	10W40		
Hydraulic System	Hoist Oil	5W	5W		
Fuel/Water Separator			·	Drain daily	
Air Dryer	Dessicant			Annually	

Fuel Filter

Annually

NOTE "A": 1974 IHC 1700 have street L pipe to raise oil level in transmission - fill to this level with 10W40.

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Equipment Truck	Make Oshkosh
Class11	Model1970 Diesel N-255

UNIT	KIND OF LUBRICANT	S	AE	DEMARKS	
OHI	KIND OF LOBRICANT	Summer	Winter	REMARKS	
Engine Cat Diesel	Lube 0il	10W40	10W40	Chg at 60 hrs	
Transmission	Lube 0il	50	50	Hypoid or EP	
<u>Transfer Case</u> Differential -	Lube Oil	50	50		
Front & Rear	Hypoid Oil	80W90	80W90	Change Annually	
General Chassis Clutch Release	Multi-purpose grease			60 hours	
Bearing	Multi-purpose grease			Annually	
Power Steering Universal	Lube Oil	10W40	10W40		
Joint Bearing Propeller Shaft	Multi-purpose grease			Handgun	
Slip Joint	Multi-purpose grease			60 hrs.	
Air Brakes	Air Comp. Filter			60 hrs.	
Alcohol Evaporator	Denatured Alcohol			Check Daily kee 2/3 full	
Air Cleaner - Dry				Service as Needed	
Fuel Filter				Change Annuall Spring	
Air Tanks				Drain Daily	
Tachometer Drive	Lubriplate 630A			2 strokes, hand gun, 60 hrs.	

Equipment	Truck	Ma	ake	FWD	
Class	11	Mc	odel	367W all to 1963	incl.

	KIND OF LURDICANT	S	AE	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine (Diesel & Gas)	Lube 0il	10W40	10W40	60 hrs.	
Transmission	Transmission Oil	140	90		
Transfer Case and Auxiliary Trans.	Transmission Oil	140	90	vel 1" below top	
Front & Rear Differential	Hypoid Differential Oil	80W90	80W90 le	vel of filter	
General Chassis	Multi-purpose grease			60 hours	
Clutch Release Bearing	Multi-purpose grease				
Steering gear	Transmission Oil	140	90		
Universal Joint	Multi-purpose grease				
Propeller Shaft Slip Joint	Multi-purpose grease				
Wheel Bearings	Multi-purpose grease				
Water Pump	Multi-purpose grease Multi-purpose				
Motor Fan	grease or Lube Oil	10W40	10W40	As required	
Distributor Shaft	Same as Motor Fan				
Generator & Starter	Lube 0il	10W40	10W40		
Air Cleaner - Dry type Air Cleaner -Oil bath	Lube 0il	10W40	10W40	As required	
Hydraulic Brakes	HD Brake Fluid			DOT 3	
Vacuum Booster Brake	Bendix Vacuum Cylinder Oil			Annually	
Front Axle - Shaft Universals	Multi-purpose grease				
Fuel Filter				Semi-annually	
Oil Filter				60 hours	

Fuel/Water Separator

Drain daily

Equipment	Truck	Make .	0shkosh	
Class	11	Model	All thru 1970 gas - diesel	

	WAND OF LUBBIOANT	S	AE	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	Chg. at 60 hrs	
Transmission	Transmission Oil	90	90		
Auxiliary Transmission	Transmission Oil	90	90		
Transfer Case	Transmission Oil	90	90		
Differential Front & Rear	Hypoid Differential Oil	80W90	80W90	Service at	
General Chassis	Multi-purpose grease			60 hours	
Clutch Release Bearing	Multi-purpose grease			Sparingly	
Power Steering	Dexron		-		
Universal Joint Bearing	Multi-purpose grease			Handgun	
Propeller Shaft Slip Joint	Multi-purpose grease				
Water pump	Multi-purpose grease				
Motor Fan	Lube Oil Multi-purpose grease			As required	
Distributor Shaft	Lube Oil Multi-purpose grease			As required	
Generator & Starter	Lube 0il	10W40	10W40		
Piston Type Vacuum Brake Cylinder	Bendix Vacuum Cyl. Oil			Annually	
Air Cleaner - Oil Bath	Lube 0il	10W40	10W40		
Air Cleaner - Dry					

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Equipment Truck	Make Dodge, International
Class12	ModelCT 900 2010, 2050

UNIT	KIND OF LUBBICANT	SAE		DEMARKS	
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Distributor Shaft	Lube 0il	10W40	10W40		
Dist. W/Tac Drive	Multi-purpose grease				
Air Cleaner - dry					
<u> Air Cleaner - oil bath</u>	Lube 0il	10W40	10W40		
<u>Transmission</u>	Transmission Oil	90	90		
Aux. Trans.	Transmission Oil	90	90		
Differential Front & Rear	Hypoid Differential Oil	80W90	80W90		
Propeller Shaft	Multi-purpose grease				
Universal Joints	Multi-purpose grease				
Steering Gear	Transmission Oil	90	90		
Power Steer	Lube Oil	10W40	10W40		
Clutch Release Sleeve	Multi-purpose			Sparingly	
Hydraulic System	Hoist Oil	5W	5W	. overfill -	
Alcohol Evaporator		keep 2/3	full	open over-	
Air Tanks		night if	possible	open over -	
Compressor Air Filter				60 hours	
General Chassis	Multi-purpose grease			60 hours	
Air dryer	Dessicant			Annually	
Hyd. Filter				Annually	

Fuel/Water Separator

Fuel Filter

Oil Filter

Drain Daily

Annually

60 hours

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Page		

Equipment Truck - Semi Tractor	Make	International
Class13	Model	COF 4070A Diesel

		S	AE	REMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	NEWANKS
Engine	Lube 0il	10W40	10W40	100hr.
Transmission	Transmission Oil	90	90	Change Annual
Differential	Hypoid Differential Oil	80W90	80W90	Change Annual
Chassis	Multi-purpose grease			100 hours Check
Power Steering	Dexron			Every service
Universal Joints	Multi-purpose grease			100 hours Clean
Engine Air Cleaner	Paper Element			or Replace Replace Annually
PCV Valve				Semi-annually
<u>Fuel Filter</u>				Every oil chg
0il Filter				100 hours
Air Compressor Filter	Clean Element			Drain daily
<u>Air Tanks</u>	l a la chal			Check daily
Alcohol Evaporator	Use denatured alcohol			Chg. annually
Bendix Air Filter	Bendix Dessicant			

	Make John Deere
Class 14, 15	Model 570, 670

		S	251112110	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
	Luka Oil	10W40	10W40	Chg. at
<u> Engine - Diesel</u>	Lube 0il	10010	Replace w	60 hours jen indicator
Air Cleaner			shows red	
Pre Cleaner				Check daily
Circle Drive Gear Box	Transmission Oil	90	90	Blade must be on ground
Tandem Drive	JD 303 DOT #015-022850			Annually
Transmission	JD 303			Annually
Trans. Filters				Annually
Fuel Filter				Annually
Cylinders, Trunnions	Multi-purpose grease			Daily
Draft Frame, Front Axle	Multi-purpose grease			Daily
All Pivot Points	Multi-purpose grease			Daily
Front Wheels	Multi-purpose grease			Annually
Rear Axle Brgs. 570 only	Multi-purpose grease			Annually
Crankcase vent tube	Remove and Clean			Annually
Oil Filter				60 hours
Water Separator				Drain daily

Equipment	Motor Grader (Maintainer)	Make	Caterpillar
Class	15	Model	12 & 120

		S	AÉ	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine - Diesel	Lube 0il	10W40	10w40	60 hours	
Fuel Injection Pump Housing	Lube 0il	10W40	10W40	60 hours	
Transmission and Rear Axle	Transmission Oil	90	90		
Starter Pinion Clutch	Lube 0il	10W40	10W40	Chk. at 120 hrs.	
Tandem Drive Housings	Transmission Oil	90	90	Serv. at 400 hrs Service at	
General Chassis	Multi-purpose grease			20 hours Service at	
Clutch Release Bearing	Lube 0il	10W40	10W40	20 hours ts of grease	
Clutch Pilot Bearing	Multi-purpose grease			igly - 240 hrs.	
Clutch Release Lever Pins	Multi-purpose grease			pilot bearing	
Steering Gear	Transmission OII	90	90	Check @ 60 hrs.	
Steering Booster Supply Tank	Hydraulic Hoist Oil	5W	5W	Serv. @ 400 hrs.	
Universal Joint Plain Bearing	Multi-purpose grease			20 hours	
Wheel Bearings - Front	Multi-purpose grease			60 hours Install grease	
Telescopic Control Shaft	s Multi-purpose grease		Grease spa	fittings	
Motor Fan	Multi-purpose grease		Service at	240 hours. Service at	
Crankcase Breather	Lube 0il	10W40	10W40	oil change	
Air Cleaner - Oil Bath	Lube Oil	10W40	10W40	As required Service with	
Starting Motor - Gas	Lube Oil	10W40	10W40	Diesel Engine	
Generator & Starter	Lube 0il	10W40	10W40		
All Control Housings	Transmission Oil	90	90		
Lift Control Unit	Transmission Oil	90	90		

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Equipment	H.D. Motor Grader (Maintainer)	Make	Huber	
Class	15 & 16	Model	D1300, D1400,	MDL100

LINIT	(IND 05 LUBBIOANT	SAE		
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	filter
Transmission	Lube 0il	10W40	10W40	Annually
Final Drive	Lube 0il	10W40	10W40	Annually
General Chassis	Multi-purpose grease			Service at 20 hours
Steering Gear	Multi-purpose grease			Check every 25 hours
Fan Hub	Multi-purpose grease			Sparingly where require
Wheel Bearings	Multi-purpose grease			
Hydraulic Control Syst	em Hoist Oil	10W40	10W40	
Starter	Lube 0il	10W40	10W40	2 wicks - lub at removal
Air Cleaner - Dry				
Tandem Drive Chains	Transmission Oil	90	90	Annually
Hydraulic Controls	Hoist Oil			
Circle Gear Case	Transmission Oil	90	90	Annually
Grease Fittings	Multi-purpose grease			Daily

Air Box Drains - Check @ 200 hours for air flow, clean @ 500 hours.

Fuel Filters - Drain sediment daily, change @ 300 hours.

Equipment	EXHD Motor Grader	(Maintainer)	Make	Adams
Class 16			Model	LW 440,550

Engine - Diesel Air Cleaner Lube Oil Upper Transmission General Chassis Multi-purpose grease Circle Reverse Circle, Reverse, Transfer Power Steering Gear Valve Housing Lube Oil 10W4		60 hours As required Service at
Air Cleaner Lube Oil Upper Transmission General Chassis Multi-purpose grease Circle Reverse Circle, Reverse, Transmission Oil Power Steering Gear Valve Housing Lube Oil Itansmission Oil	10W40	As required
Upper Transmission General Chassis Circle Reverse Circle, Reverse, Fransfer Power Steering Gear Valve Housing Transmission Oil		
General Chassis Circle Reverse Circle, Reverse, Iransfer Power Steering Gear Power Steering Gear Valve Housing Multi-purpose grease Hypoid Oil Itansmission	90	Sarvica at
Circle Reverse Hypoid Oil 14 Circle, Reverse, Transfer Transmission Oil 9 Power Steering Gear Transmission Oil 14 Power Steering Gear Valve Housing Transmission Oil 14		
Circle, Reverse, Iransfer Power Steering Gear Power Steering Gear Valve Housing Transmission Oil Transmission Oil Transmission Oil 14		20 hours
IransferTransmission 0il9Power SteeringTransmission 0il14GearTransmission 0il14Power Steering GearTransmission 0il14	140	
Gear Transmission Oil 14 Power Steering Gear Valve Housing Transmission Oil 14	90 90	
Valve Housing Transmission Oil 14	10 140	
	10 140	
Gear Shift Housing Transmission Oil 90	90	
Lateral Shaft Hypoid Differential Oil 14	140	
Lateral Shaft Reduction Hypoid Differential Oil 14	140	
Blade Lift Hypoid Differential Oil 14	140	
Blade Lift Reduction Hypoid Differential Oil 14	140	
Hydraulic System Hydraulic Hoist 5	5W 5W	
Front Wheel Lean Hypoid Differential Oil 14	10 140	
Scarifier Lift and Reduction Hypoid Differential Oil 14	10 140	
Wheel Bearings Multi-purpose grease		
Power Box Untreated Lube 0il 3	30	
Power box brive Transmission of	90 90	
VICH Fully Adaptor Transmission of	90 90	
Power Transmission and Final Drive Transmission Oil 9		
Tandem Drive Lube Oil 10W4	90 90	

Equipment	EX HD Mo	otor Grader	(Maintainer)	Make	Champi	on
Class	16			Model	560	HD

		SA	ΛE	REMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	1
Engine	Lube 0il	10W40	10W40	Change at 60 hours
Transmission	Lube 0il	10W40	10W40	Annually
Final Drive	Hypoid Differential Oil	80W90	80W90	Annually
Tandem	Transmission Oil	90	90	Annually
Main Hyd. and Hyd. Steering	Hoist Oil	5W	5W	
Oil Clutch	Lube Oil	10W40	10W40	Every 20
General Chassis	Multi-purpose lube			hours
Front Wheel Bearings	Multi-purpose lube	•		Annually
Brakes	H,D. Brake Fluid			Check dust
Air Cleaner	Dry Element		Chock for	bowl daily or flow every
Engine Air Drain Boxes			60 hours	
Fuel Filters			61	Chg. Annuall
Slide Shift Control and Circle				graphite.

Equipment EX HD Motor Grader (Maintainer)	Make Galion
Class <u>16</u>	Model 118

	KIND OF LURDICANT	S	AE	DEMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
				Service at
Engine	Lube 0il	10W40	10W40	60 hours
Transmission, Differer				Twice a year
Transfer Case	Transmission Oil	90	90	seasonal
Gear Case -				repack twice
Lateral Shift	Multi-purpose		a year	
				k ea. 60 hrs.
Gear Case Steering	Transmission Oil	90	90 Chg.	twice a year
				Service at
General Chassis	Multi-purpose grease			20 hours
Wheel Bearings	Multi-purpose grease			
Gear Case				Flush & change
Circle Rev.	Transmission Oil	90	90	twice a year
				Twice a year
Tandem Drive	Transmission Oil	90	90	seasonal
Engine Fan,				Check at plug
Water Pump	Multi-purpose grease			every 60 hrs.
				Chg. when chgin
Fuel Injector Pump	Lube 0il	10W40	10W40	engine oil
Starter Generator	Lube 0il	10W40	10W40	60 hours
			emove plug-	
Distributor Shaft	Multi-purpose grease	fitting u	ntil grease	comes out.
Propeller Shaft -				Service at
Universal Joints	Multi-purpose grease			20 hours.
Hydraulic Control				
System	Hydraulic Oil			Annually
Rear Axle to Tandem				Service at
Drive Bearing	Multi-purpose grease			20 hours
Hydraulic System				Service at
Air Cleaner	Lube 0il	10W40	10W40	60 hours
Air Cleaner	Lube 0il	10W40	10W40	As required
Oil Filter	Change filter cartridge at each	engine oi	I change.	

NOTE: Care should be taken not to over-grease the rear bearing on the blade left arm shafts as the rear of this shaft is inside the cab and the one on the right side is directly behind the instrument panel and excessive grease could damage the wiring.

Equipment	FX_HD_Motor	Grader (Ma	<u>intaine</u> r)	Make _	Galion	
Class	16			Model _	104H 104 HB	

11117	KIND OF LUBRICANT		λ Ε	REMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	Change at
Engine	Lube Oil	10W40	10W40	60 hours
Transmission	Lube 0il	50	50	Seasonal
Final Drive Axle	Hypoid Differential Oil	80W90	80W90	Seasonal
Tandem Drive	Lube Oil	50	50	Seasonal
Circle Reverse Case	Transmission Oil	90	90 Cho	60 hours ck sight gauge
Hydraulic Control System	Hydraulic Hoist Oil	5W		il cold before operatin
Oil Clutch	Dexron .			Seasonal 10 hours or
General Chassis	Multi-purpose grease			daily
Front Wheel Bearings	Multi-purpose grease			Yearly
Brakes	H.D. Brake fluid Clean element a Dry ELement Check dust bowl		acturer's	instructions.
Air Cleaner	Dry Element Check dust bown	au i i j	Check fo	rair flow every
Air Drain Boxes Starter	Lube Oil	10W40	10W40	Lube at Removal
Fuel Filters				Annually

Tire Pressure - 35 lbs. - can increase 50% for operating on pavement or improved road.

Equipment	EX HD Motor Grader (Maintainer)	Make	Huber-Warco
Class	16	Model	10D W/GM Diesel

UNIT	KIND OF LUBRICANT	S	DEMARKS	
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS Service at
-	Lube 0il	10W40	10W40	60 hours
<u>Engine</u>	Transmission Oil	101110	1.0	
Transmission	Hyd. Hoist 0il	5W	5W	
Transmission	Hyd. Hoist Oil			
Final Drive	Transmission Oil	5W	5W	
11101 51 175	Hyd. Hoist Oil			
Pump Drive Housing	Transmission Oil	5W	5W	
General Chassis	Multi-purpose grease			Daily
Clutch Release Bearing	Multi-purpose grease		-	
	T window 041	90	90	
Steering Gear Case	Transmission Oil	30	1 30	Sparingly-
	Multi numaca anasca	•		Weekly
Fan Hub	Multi-purpose grease		 	Neck 15
Wheel Despinas	Multi-purpose grease .			
Wheel Bearings	Majet-parpose grease		<u> </u>	
Hydraulic Control System	Hoist Oil	5W	5W	
Chevron	110130 011		 	
Starting System	Chevron Starting Capsule		1	
Scar cring System				
Generator	Lube 0il	10W40	10W40	Sparingly
			101/10	C
Starter	Lube Oil	10W40	10W40	Sparingly
Air Cleaner		10W40	10W40	
Oil Bath	Lube 0il	10040	10040	
	7	90	90	
Tandem Drive Chains	Transmission Oil		ļ	
	Heigh Oil	5W	5W	
Hydraulic Controls	Hoist Oil		1	
Circle Turn	Transmission Oil	90	90	·
Gear Case	11 4113111331011 011			
			1	<u> </u>

Equipment	EX HD Motor Grade	· (Maintainer)	Make	Wabco
Class	16		Model	1970 - 440H

	WIND OF LUBBIOANT	S	SAÉ		
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine - Diesel	Lube Oil	30	30	60 hours	
Air Cleaner - dry type			Service as by manufac	recommended turer	
General Chassis	Multi-purpose grease			20 hours	
Upper Trans. and Shifter housing	Transmission Oil	90	90		
Circle Reverse Transfer	Transmission Oil	90	90		
Power Box Drive	Transmission Oil	90	90		
Power Box Drive Housing w/Pump Adapter	Transmission Oil	90	90		
Lower Transmission	Transmission Oil	90	90		
Circle Reverse Housing	Transmission Oil	140	140		
Lateral Shift Housing	Transmission Oil	140	140		
Lift Housing	Transmission Oil	140	140		
Lift Reduction Housing	Transmission Oil	140	140		
Front Wheel Lean Housing	Transmission Oil	140	140		
Scarifier Lift Housing	Transmission Oil	140	140		
Blade Lift and Lift Reduction	Transmission Oil	140	140		
Power Box Housing	Engine Oil	30	30		
Steering Gear-Power	Hypoid Oil	80W90	80W90	Mil-L-2105B	
Tandems	Engine Oil	10	10		
Oil Clutch	Dexron				
Hydraulic Oil	Hydraulic Hoist	5W	5W		

Brake Master Cyl. H.D. Brake Fluid

Multi-purpose grease

DOT-3

Wheel Bearings

Equipment	Truck M.D.	Make	Reo
Class	17	Model	F231L

UNIT	KIND OF LUBRICANT	S	SAE		
	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40 fil	nge oil & ter every 60 hr	
Air Cleaner Oil Bath	Engine Oil	10W40		viscosity used rankcase	
Transmission	Transmission Oil	90	90	Chg. Annually	
Differential	Hypoid	80W90		nually	
Steering Gear	Hypoid	80W 90	80W90		
Distributor Bushing	Engine Oil	10W40	10W40		
General Chassis	Multi-purpose grease			60 hours	
Universal Joint Needle Bearings	Multi-purpose grease	•		Hand gun only	
Propeller Shaft Slip Joint	Multi-purpose grease				
Propeller Shaft Center Bearing	Multi-purpose grease			hand gun only	
Wheel Bearings	Multi-purpose grease			Clean and pack Annually	
Vacuum brake cyl. Piston Type	Use vacuum cylinder oil				
Brakes	H.D. Brake Fluid DOT #3				
Linkage-clevis pins, Pivots & Sliding Surf.	Engine Oil	10W40	10W40		
Winch	Hypoid Oil	80W90	80W90	Flush and chg. annually	

Equipment	H.D. Crawler Tractor	Make	Caterpillar (diesel)	
Class	20	Model	D7	

118117	KIND OF LUBBICANT	s	SAE	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine - Diesel	Lube 0il	10W40	10W40	Service at 60 hours
Air Cleaner - oil bath	Lube Oil			As required
Transmission	Transmission Oil	140	90	Convince at
Starting Motor	Lube 0il	10W40	10W40	Service at 60 hours
Fuel Injection Pump Housing	Lube 0il	10W40	10W40	Drain & refilwith motor
General Chassis	Multi-purpose grease			Daily
Clutch Release Shifter Collar	Transmission Oil	140	90	
Generator and Starter Drive	Lube 0il	· 10W40	10W40	Sparingly in generator
Front Idlers	Transmission Oil	140	90	Service daily
Track Rollers	Transmission Oil	140	90	Service daily
Clutch Drive Plate Bearing	Multi-purpose grease			
Final Drives	Transmission Oil	140	90	
Track Carrier Rollers	Transmission Oil	140	90	Service daily

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LUBRICATION & MAINTENANCE

Equipment	MD Crawler Tractor W/Loader	Make	John Deere
Class	21	Model	JD 450

IINIT	KIND OF LUBRICANT	S	SAE	
UNIT		Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	Chg. 60 hrs.
General Chassis	Multi-purpose grease			Daily See note "A"
Track Idler and Rollers	Multi-purpose grease			60 hours
Loader Pressure Fittings	Multi-purpose grease			Daily
Air Cleaner - Oil Bath				60 hours
Pump Sediment Bowl Fuel Transfer			dirt dai	Г
Fuel Filters Sediment Bowls			Drain any deposit o	water or dir daily
Hydraulic System	JD 303	•		Chg. annual
Clutch Throwout Bearing	Multi-purpose grease			2 strokes every 50 hrs
Final Drives	John Deere Type 303 Special Purpose Oil			Annually
Transmission	John Deere Type 303 Special Purpose 0il	<u>.</u>		Annually
Starter	Lube 0il	10W40	10W40	Annually
Fuel Filters				Annually

Note "A": Use only special grease gun furnished for track lubrication. Pump grease into idler and roller fittings ONLY until increased resistance is felt on level of grease gun. Grease at 10 hrs. intervals when operating in deep mud or water.

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Equipment	MD Crawler Tractor	Make _	Allis Chalmers	
Class	21	Model _	HD4	

11017	KIND OF LUBRICANT	SAE		DEMARKS	
UNIT		Summer	Winter	REMARKS	
Engine Torque Converter	Lube Oil	10W40	10W40	60 hours	
& Shuttle					
Clutch	Dexron			Annually	
Fuel Filter				Clean annuall in spring	
Hydraulic Reservoir	Lube 0il	10W40	10W40	Annually	
Transmission	Lube 0il	10W40	10W40	Annually	
Final Drive	Transmission Oil	90	90	Annually	
Air Cleaner - Dry Type		•		Annually	
Track Idler and Rollers	Transmission Oil	90	90	100 hours	
Hydraulic Suction Line					
General Chassis	Multi- purpose grease			Daily	

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Equipment	MD Crawler Tractor	Make Case (diesel)
Class	21	Model D450

UNIT	KIND OF LURBIANT	S	SAE	
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	Service at 60 hours
Torq ue Converter Åll Pressure Fittings	Dexron		·	
All Pressure Fittings General Chassis	Multi-purpose grease			Daily
Final Drive	Hypoid Differential Oil	80W90	80W90	60 hours
Hydraulic Oil	Dexron Type C3			Annually
		•		

Equipment	L.D. Wheel Tractor	Make	Ford Dearborn
Class	22	Model	BC 25

112	KIND OF LUDDICANT	S	SAE	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
		701140	201140	Service at
Engine	Lube Oil	10W40	10W40	60 hours
	Ford Special Hyd. Oil			Annually. S
Transmission	DOT #293-627900			note A & B
	Ford Special Hyd. Oil			Annually
Differential	DOT #293-627900			See note A
Hydraulic System	Ford Special Hyd. Oil			
600 & 900 Series	DOT #2930627900			Annually
<u> </u>				
Power Steering	DOT #015-22710			
Tower Sections	Ford Special Hyd. Oil			
Steering Gear	DOT #293-627900			
steering dear	001 11230 027300			
Canamal Chassis	Multi-purpose grease			Daily
General Chassis	Thurt - pur pose grease			
Add Classes Oil Bath	Lube 0il	10W40	10W40	Service dail
<u> Air Cleaner - Oil Bath</u>	Lube off	10110	1,0,,,,	
O tou Description	Luba Oil	10W40	10W40	
Generator Bearings	Lube 0il	101110	101110	
D. S. A. and L. and L. and	Lube 0il	10W40	10W40	
Distributor	Lube of t	101110	,	
	MOWER UNIT			
	TIONER OILE	Every 4 h	ndurs of or	peration except
Conses Fittings	Multi-purpose grease	around Pi	itman - the	ere every 2 ho
<u>Grease Fittings</u>	Huter-purpose grease			
				+
				

Note "A": Transmission, differential and hydraulic system - when draining them, be sure to remove all three (3) plugs. On 600 series - when checking hydraulic oil level, be sure always that all hydraulic cylinders are fully extended.

Note "B": Selectomatic Transmission - Use Dexron.

Equipment <u>L D Wheel Tractor</u>	MakeMassey Ferguson
Class22	ModelMF 12

UNIT	KIND OF LUDDICANT	S	AE	DEMARKS
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	Change every 25 hours
Rear Axle	Transmission Oil	90	90	Drain Annually
Hydrostatic Irans.	Dexron			See note "A"
General Chassis	Multi-purpose grease			Every 50 hour
Air Cleaner				See note "B"
	EVERY 100 HOURS CLEAN AND PACK			
Front Axle				
Front Axle Spindle	·			
Clutch Pedal Pivot				
Idler Pivot				
Hydra Speed Cam				
Spring Tube				
	MOWER			
General Lubrication	Multi-purpose grease			Every 4 hours
Gear Box	Multi-purpose grease			3/4 full annu
Roller	Lube 0il	10W40	10W40	Every 4 hours

In dusty conditions drain transmission every 25 hours, normal condition every month. $\,$ Note "A":

Check daily, clean if necessary and replace every month. Note "B":

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Equipment	MD Wheel Tractor	Make _	International	
Class23		Model _	2404, 2444, 12606, 1606	

44447	KIND OF LUBRICANT	S	AE	DEMARKS
UNIT		Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	60 hours
Trans. & Differential	DOT Hydraulic Trans. Fluid			Annually
General Chassis	Multi-purpose grease			Daily
Steering Gear	Hypoid Differential Oil	80W90	80W90	Annually
Distributor Shaft	Lube Oil	10W40	10W40	Every oil chg
Air Cleaner - Dry				Annually
Hydraulic System	Hydraulic Trans. Fluid			Annually
		•		

Equipment MD Wheel Tractor	Make Massey Ferguson
Class 23	Model MF 20

		S	AE	DEMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Crankcase	Lube Oil	10W40	10W40	60 hours
Transmission	M.F. Spec. M-1129A			Chg. annually
Differential	M.F. Spec. M-1129A			Chg. annually Replace Hyd.
Hydraulic System	M.F. Spec. M-1129A			Filter annual.
Power Steering	M.F. Spec. M-1129A			Chg. annually
General Chassis	Multi-purpose grease			Daily Dry clean 60 hours
Air Cleaner - dry				Replace annual
		A STATE OF THE PROPERTY OF THE		

Equipment	MD Wheel Tractor	Make	Massey Ferguson
Class	23	Model	245 W/ triumph mower

	KIND OF LUBRICANT	SAE		REMARKS
UNIT		Summer	Winter	į.
Engine	Lube 0il	10W40	10W40	Change every 60 hours
Trans. & Differential	Hyd. Trans. Fluid	DOT #015-	-022850	
Hyd. System	Hyd. Trans. Fluid	DOT #015-	-022850	See note "A"
Power Steering	Hyd. Trans. Fluid	DOT #015-	-022850	
General Chassis	Multi-purpose grease	Replace		At 60 hours
Air Cleaner	Dry Type	yearly		60 hours
Fuel Filter Auxiliary Hyd. System	Drain as necessary			Check for water Operator Manual 18
Front Wheel Bearings	Multi-purpose grease			Annually Level of
Mower Oil Reservoir	Lube 0il	10W40	10W40	Sight Glass Several times
Pitman & Knife Head	Multi-purpose grease			daily
Mower Oil	Multi-grade	10W40	10W40	Heavy duty Clean every
Mower Filter	100 Micron Reusable			20 hrs.

Note "A": Clean strainer and refill with Hyd. Trans. Fluid every 500 hrs. or annually.

Equipment	Wheel Tractor	Make	John Deere
Class	23, 24	Model	301A, 401C, 400

	KIND OF LUBRICANT	S	SAE	REMARKS	
UNIT		Summer	Winter		
Engine Diesel	Lube 0il	10W40	10W40	Change every 60 hrs.	
Trans. & Differential	Hyd. Trans. Fluid			Annually	
Hydraulic System	Hyd. Trans. Fluid			Annually	
<u>Pivot Points Chassis</u>	Multi purpose			2 shots	
Front Wheels	Multi purpose			2 shots	
Rear Axle Bearings	Multi-purpose			Annually Change every	
Oil Filter	Fram PH 20			60 hrs.	
Air Cleaner	Dry Type	Check Da	i ly	Replace annual Change every	
Hyd. System Filter	Replaceable			60 hrs.	
Fuel Filter	Replaceable			Annually Service at	
Battery				60 hours	
Starter	Lube Oil	10W40	10W40		

NOTE: Hyd. Trans. Fluid available under #015-022850

Equipment	Wheel Tractor	Make	International
Class	24	Model	2656, 2505

UNIT	KIND OF LUBRICANT		SAÉ		
	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Trans. & Differential	Hoist 0il #015-022850	5W	5W	Annually	
General Chassis	Multi-purpose grease			Daily	
Steering Gear	Hypoid Differential Oil	80W90	80W90	Chg. Annually	
Distributor Shaft	Lube 0il	10W40	10W40	Every oil chg.	
Air Cleaner Dry				Annually	
<u>Hydraulic System</u>	Hoist 0il #015-022850			Chg. annually	

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LUBRICATION & MAINTENANCE

EquipmentAerial Boom	Make Elliott
Class 25 attached to HD Truck	Model ECE50

11517	WIND OF LURBICANT		ΑE	REMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	HEMARKS
Hyd. Pump Drive	Engine Oil	50	50	
Hyd. System	Hoist Oil	5W	5W	See note "A"
	NOTE: See truck sheet for			
	carrier service			
		1		

NOTE "A": Monthly close oil tank shut-off valve and clean strainer. If unusual amount of foreign material is present, drain hydraulic oil, flush tank, and refill.

Equipment	Dragline	Make	Schield Bantam
Class	26	Model	A11

	KIND OF LUBBICANT	S	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	60 hours
Drive Chain	Lube 0il	10W40	10W40	See note "A"
General Chassis	Multi-purpose grease			60 hours
Clutch Release Brg. and Camshaft Brg.	Multi-purpose grease			
Water Pump	Multi-purpose grease			
Motor Fan	Multi-purpose grease			
Generator & Starter	Lube 0il	10W40	10W40	
Vertical Swingshaft Bearings	Multi-purpose grease			See note "B"
Pillow Block Bearings	Multi-purpose grease			Twice yearly 8 hours or
Open Gears	Pressurized Spray Gear & Cable Compound			daily
Air Cleaner, Oil Bath	Lube 0il	10W40	10W40	As required
Turntable Rollers	Multi-purpose grease			Daily
ATT Boom Pullies & Crane Carrier	Multi-purpose grease			Daily
Wheel Bearings	Multi-purpose grease			Annually
Transmission	Trans Oil	90	90	
Transfer Case		90	90	
Differential Front & Rear	Hypoid Oil	80W90	80W90	Annually
Steering Gear	Trans Oil	90	90	

On 1964 Bantam Model T-35, lubricate drive chain with 10W40 Lube 0il, NOTE "A":

check every 8 hours, clean and refill every 2,000 hours or yearly.

Some models permanently greased at the factory. On unit with fittings NOTE "B": every 60 hours until grease appears at vent holes.

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Equipment	Dragline	 Make .	Sargent
Class	26	Model _	All with crane carrier

UNIT	KIND OF LUBRICANT	S	25142242		
ONTI	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Transmission	Transmission Oil	90	90		
Auxiliary Trans.	Transmission Oil	90	90		
Differential Front & Rear	Hypoid Differential Oil	80W90	80W90		
General Chassis	Multi-purpose grease			60 hours	
Steering Gear	Hypoid Differential Oil	80W90	80W90		
Universal Joint Needle Bearing	Multi-purpose grease			Hand gun	
Propeller Shaft Slip Joint	Multi-purpose grease				
Front Axle <u>Shaft Universals</u>	Multi-purpose grease			Every 100 hou or 1,000 mi.	
Distributor Shaft	Lube 0il	10w40	10W40		
Generator and Starter	Lube 0il	10W40-	10W40		
Air Cleaner, Oil Bath	Lube 0il	10W40	10W40	As required	
Water Pump	Multi-purpose grease			100 hours	
Motor Fan	Lube 0il	10W40	10W40	100 hours	
Turntable Ball and Roller Bearings	Multi-purpose grease			As required	
Open Gears	Gear and Cable Compound			Buy locally as required	
Drive Chain	Lube 0il	10W40	10W40		
Clutch Release Brgs.	Multi-purpose grease			100 hours	
Wheel Bearings	Multi-purpose grease			Seasonal	

Equipment Dragline	Make Little Giant
Class 26	Model M38A1

11117	KIND OF LUBRICANT	SAE			
UNIT		Summer	Winter	REMARKS	
Engine (Dragline)	Lube 0il	10W40	10W40	60 hours	
Engine (Carrier)	Lube 0il	10W40	10W40	60 engine hrs.	
Transmission	Transmission Oil	90	90		
Auxiliary _Transmission	Transmission Oil	90	90		
Differential	Hypoid Differential Oil	80W90	80W90		
Steering Gear	Hypoid Differential Oil	80W90	80W90	Sancias access	
Chassis (All fittings)	Multi-purpose grease			Service every 20 hours	
Turn Table Assembly	Multi-purpose grease			Daily	
Bull Gear	Open Gear Compound			Daily	
Vertical Swing Shaft Assembly	Multi-purpose grease			Daily	
Jack Shaft	Multi-purpose grease			Seasonal and Sparingly	
Horizontal Swing Shaft	Multi-purpose grease			Seasonal and Sparingly	
Bevel Gears	Open Gear Compound			Daily	
Chain Drive Assembly	H.D. Lube Oil model (1969) and later	10W40	10W40	30 hours	
Chain Drive Assembly	Transmission oil - models prior to 1969	90	90	30 hours	
Drive Gears (ALL)	Pressurized Open Gear Compound			Use daily	
Clutch Assembly	Multi-purpose grease			60 hours	
Clutch Assembly (Oil Hole)	Lube 0il	10W40	10W40	60 hours	
Boom and Lead Pulleys	Multi-purpose grease			Daily	
Gear Case	Trans oil	90	90		
Taglines	Trans oil	90	90	Do not overfill	

NOTE: Swing pinion and swing gear open gear compound daily.

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Equipment	Fork lift	Make Clark
Class	28	Model Y-60

	WAND OF LUBBIOANT	S	SAE	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	
Transmission	Regular Transmission Oil	90	90	
Axle Assembly	Hypoid Oil	80W90	80W90	
Hydraulics	Hydraulic Oil	5W	5W	

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raue		

Equipment	Forklift	Make Clark
Class	28	ModelC-Stand-up & Y-685

UNIT	KIND OF LUBRICANT		SAE		
·····	RIND OF EUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40		
Transmission	Dexron Type A				
Axle Assembly	Hypoid Oil	80W90	80W90		
Hydraulic	Hydraulic Oil	5W	5W		
				······································	
					
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			SAE	REMARKS
Class	28	Model	GA-80	
Equipment	Forklift	 Make	Pettibone-Mercury	

115117	KIND OF LUBBICANT	S	SAE	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	
Transmission	Dexron II Type A			
Axle Assembly	Hypoid Oil	80W90	80W90	
Hydraulic System	Hydraulic Oil	5W	5W	

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Equipment Forklift	Make	Datsun		
Class 28	Model	FG005U		
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HAHT	KIND OF LUBRICANT		ĄE	REMARKS
UNIT	KIND OF LOBRICANT	Summer	Winter	
Engine	Lube 0il	10W40	10W40	
Transmission	Type A Dexron II			
Axle Assembly	Hypoid Oil	80W90	80W90	
Hydraulics	Hydraulic Oil	5W	5W	
nyur aur res				
		·		

Equipment	Tractor W/Rotary Mower	Make Massey	Ferguson	w/Sunmaster Mower
Class	30	Model	MF-150	(MF366C)

A	KIND OF LUBRICANT	S	SAE	
UNIT		Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	60 hours
Transmission and Differential	M.F. 0il Spec. #M-1129			Annually
Hydraulic System	M.F. 0il Spec. #M-1129			Annually
Power Steering	Dexron		<u> </u>	Seasonally
Steering Gear Housing	Hypoid Oil	90	90	
General Chassis	Multi-purpose grease			Daily
Air Cleaner, Dry Type				Daily
Distributor	Lube 0il	10W40	10W40	
Generator & Starter	Lube 0i1	10W40	10W40	
Blade Spindle Assembly	Multi-purpose grease			Daily
Universal Joints	Multi-purpose grease			Daily with handgun
Chain Case	Transmission Oil	90	90	Annually
Gear Case	Transmission Oil	140	140	Annually
General Chassis	Multi-purpose grease			Daily

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Equipment Rotary Snow Plow Attachment	Make Bros
Class 34	Model BL

	KIND OF LUBRICANT	Si	SAE	
UNIT		Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	40 hours
Air Cleaner	Lube 0il	10W40	10W40	
Distributor Shaft	Lube Oil	10W40	10W40	
Clutch Lever Shaft	Multi-purpose grease			Sparingly
Reduction Gear Case	Lube 0il	10W40	10W40	Annually
Shear Pin Disc Bearing	Multi-purpose grease			40 hours
Idler Sprocket Bearing	Multi-purpose grease			4 hours
Thrust & Pilot Bearing	Multi-purpose grease			4 hours
Motor Rake Bearing Shaft	Multi-purpose grease			4 hours
Rotating Chute Worm Drive	Multi-purpose grease			4 hours
Chain	Chain Spray			4 hours

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Equipment	Rotary Snow Plow	Make	Wausau
Class	34	Model	Snow Throw 100

	VIND OF LUBBICANT		ĄΕ	REMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine - Diesel	Lube Oil	10W40	10W40	30 hours
Gear Reduction Box	Lube 0il	10W40	10W40	Daily
Air Cleaner - Oil Bath	Lube Oil	10W40	10W40	As required
Generator	Lube 0il	10W40	10W40	
Starter	Lube 0il	10W40	10W40	
Miter Gear Box	Transmission Oil	90	90	
Alemite Fittings	Lubriplate 630A			Every 4 hours
Drive Chain & Sprockets	Chain Spray			Every 4 hours

Equipment Rotary Snow Plow	Make Sno-Go
Class 34	ModelTU_3

		Si	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
10.0:	Lube 0il	10W40	10W40	Every 60 hrs.
Engine -AC Diesel	Lube off	70		Sparingly
Pilot Bearing	Lubriplate 630A			Annually
Clutch Release Bearing	Lubriplate 630A			
Clutch Housing				Every 4 hours
Drive Bearing	Lubriplate 630A			Lvery 4 nour.
Universal Joint Plain Bearing	Lubriplate 630A			Every 4 hours
Chain and		20	20	Buy locally
Sprocket Case	Lube Oil - Non Detergent			
Auger Drive Chain	Transmission Oil	90	90	Every 4 hour
	Lubriplate 630A			Every 4 hour
Auger Bearings		5W	5W	
Hydraulic Systems	Hydraulic Hoist Oil	ЭМ	JW	
Gear Case on Blower Fan	Transmission Oil	90	90	Every 4 hour
Air Cleaner				Check daily for moisture
Dry type				Annually
				after winter
Fuel Filter				
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Note: See truck sheet for carrier service.

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Equipment	L.D. Loader	Make	Case	
Class	36	Model	WA 5	

115117	WIND OF LUBBIOANT	S	AE	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Differential	Hypoid Oil	80W90	80W90	44 quarts	
Torque Converter	Dexron 11 1/2 quarts		refill e	500 hours	
Steering Gear Housing	Transmission Oil	90	90	l pint	
Hydraulic Power Steer.	Dexron			l quart	
General Chassis	Multi-purpose grease			Every 20 hrs.	
Distributor	Lube 0il	10W40	10W40		
Generator	Lube 0il	10W40	10W40		
Air Cleaner-Oil Bath	Lube Oil	10W40	10W40	As required Service as	
Air Cleaner-Dry Type				recommended Drain and	
Hydraulic System	34 quarts Hydraulic Hoist Oil	5W	5W	refill annually	
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LUBRICATION & MAINTENANCE

Equipment M.D. Loader	Make John Deere
Class 37	Model 544

		S	AÉ	DE114 DV0	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Air Cleaner	Dry Element			indicated	
Transmission	Hydraulic Transmission Fluid	C-2	C-2	Annually	
Loader Reservoir	John Deere purpose	*303	*303	Annually	
General Chassis	Multi-purpose grease			Every 60 hrs.	
Boom and Loader Hinge Points	Multi-purpose grease			Daily	
Front & Rear Differentials	John Deere	*303	*303	Annually	
Steering Gear	Hydraulic Transmission Fluid	C-2	C-2	60 hours	
Front Drive Shaft Bearing	Multi-purpose grease			Daily	
Axle Bearing Multi-purpose grease				Daily	
Starter Lube 0il		10W40	10W40	Saturate wicks	
Generator					
Universal Joint	Multi-purpose grease			Every 60 hrs.	
	-				

NOTE: * DOT #303-293-627900

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Equipment	M.D. Loader	Make	Hough
Class	37	Model	HV - Gasoline

UNIT	KIND OF LUBRICANT	S	DEMARKS	
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine Lube 0il		10W40	10W40	6 quarts 60 hours
Trans. P-600	Dexron			15 quarts
Torque Coverter System	Dexron			24 quarts
Front Drive Differential	Hypoid Oil	80W90	80W90	10 quarts
Steering Drive Differential	Hypoid Oil	80W90	80W90	7 quarts
Wheel Planetary Housings	Transmission Oil	80W90	80W90	2 3/4 pts.
Steering Trunions	Multi-purpose grease			As required
Drive Shafts	Multi-purpose grease			As required
General Chassis	Multi-purpose grease			As required
Steering Gear	Transmission Oil	140	90	As required
Hyd. System	Hydraulic Hoist Oil	5W	5W	16 quarts
Generator & Starter	Lube Oil	10W40	10W40	
Distributor	Lube 0il	10W40	10W40	
Air Cleaner	Lube 0il	10W40	10W40	As required

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Equipment	M.D. Loader	Make	International
Class	37	Model	3850

		Si	SAE		
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube Oil	10W40	10W40	60 hours	
Transmission	Hy-Tran International			30 quart capacity	
Wheel Ends	Transmission Oil	90	90	Chg. at 1000 hours	
Hydraulic System	Hy-Tran International			Fender Tank 51 qt. cap.	
Differentials Front & Rear	Hypoid Differential Oil	80W90	80W90	10qt. cap.	
Hydraulic Fluid Filter	(Fender Tank)			Replace at 250 hours	
Transmission Filter	Clean and Replace			Change every 250 hours	
Generator	Lube 0il	10W40	10w40		
General Chassis	Multi-purpose			10 hours	

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Equipment	M.D. Loader	Make _	Case		
Class	37	Model _	W-7,	W-9, W-10, W	-14

UNIT	KIND OF LUBRICANT		SAE		
	KIND OF EUDRICANT	Summer	Winter	REMARKS	
Engine - Diesel	Lube 0il	10W40	10W40	60 hours	
Engine - Gas	Lube 0il	. 10W40	10W40	60 hours	
Transmission and Torque Converter	Dexron			1000 hours	
Differential	Hypoid	80W90	80W90	1000 hours	
Fuel Injection Pump	Lube 0il	10W40	10W40	60 hours	
Hydraulic System Power Steering and Power Brake System	Dexron Dexron			Annually Chg. element every 1000 hrs	
Planetary Housing	Transmission Oil	90	90	1000 hours	
Steering Gear Housing	Trans. 0il	90	90	·	
Generator	Lube 0il	10W40	10W40		
Starter	Lubė Oil	10W40	10W40	Service only at overhaul	
Air Cleaner - Dry				Service as re- commend by mfg	
General Chassis	Multi-purpose grease			Serv. at 20 hr	
Fuel Filter				Annually	
Hyd. Filter				Annually	
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Equipment	M.D. Loader	Make	Michigan	
Class	37	Model	45A	

UNIT	KIND OF LUBRICANT		AE	REMARKS
O1411	KIND OF EUDRICANT	Summer	Winter	NEWIANKS
Engine	Lube Oil	10W40	10W40	60 hours
Transmission	Dexron			Annually
Air Cleaner	Lube Oil	10W40	10W40	As required
Steering Gear	Transmission Oil	90	90	
Power Steering Unit	Hydraulic Oil	5W	5W	
Universal Joint	Multi-purpose grease			
Differential Wheel Hub	Hypoid Differential Oil	80W90	80W90	
Spindle Support	Multi-purpose grease			
Hydraulic System	Hydraulic Hoist Oil	5W	5W	
General Chassis	Multi-purpose grease			Service at 20 hours

Equipment	M.D. Loader	Make	Owatonna
Class	37	Model	880

		SA	ĄĖ	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Air Cleaner	Clean element when indicator s	hows red.			
Transmission	Dexron Type A			Check daily	
General Chassis	Multi-purpose grease			60 hours	
Power Box Housing	Multi-purpose grease			1-2 shots	
Steering Gear	Multi-purpose grease			60 hours	
Wheel Bearings - Front	Multi-purpose grease			60 hours	
Rear Axle Bearings	Multi-purpose grease			60 hours Remove screen	
Starter	Lube Oil	10W40	10W40	60 hours	
Universal Joint	Multi-purpose grease			60 hours	
Hydraulic System Front and Rear	Dexron			Annually	
Differential	Transmission Oil	140	140		
		1	1		

Equipment	Tractor - Loader	Make	Trojan		
Class	37 & 38	Model	114, 134,	164	

UNIT	KIND OF LUBRICANT		AE	DEMARKS
VIIII	KIND OF EDBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	60 hours
Transmission	Dexron	•		60 hours
Fron t & Rear Final Drive	Hypoid Diff. Oil	80W90	80W90	60 hours
Chassis	Multi-purpose grease			60 hours
Universal Joint	Multi-purpose grease			9 points sparingly
Hydraulic System	Dexron			60 hours
Hydraulic Steering	Dexron			60 hours
Air Cleaner	Lube Oil	10W40	10W40	60 hours
Steering Gear	Transmission Oil	90	90	60 hours
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Equipment	H.D. Loader	Make	Michigan
Class	38	Model	85-A

		S	AÉ		
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube Oil	10W40	10W40	Service every 60 hours	
Transmission	Dexron			Annually	
Air Cleaner	Lube 0il	10W40	10W40		
Steering Gear	Transmission Oil	90	90		
Distributor Shaft Advance	Lube 0il	10W40	10W40		
Starter and Generator	Lube 0il	10W40	10W40		
Universal Joints	Multi-purpose grease			Handgun only	
Differentials and Wheel Hubs	Hypoid Differential Oil	80W90	80W90	Hand packed	
Spindle Support	Multi-purpose grease			on assembly	
Hydraulic System	Hoist Oil	5W	5W	Annually Service every	
General Chassis	Multi-purpose grease			20 hours	
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LUBRICATION & MAINTENANCE

Equipment	Loader	 Make	Ford
Class		 Model	A-62

	WIND OF LUBBIOANT	S	AÉ	DE114 DV0	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine w/ Turbocharger	Lube 0il	10W40	10W40	See note "A" 60 hours	
Injector pump	Lube 0il	10W40	10W40 Service	See note "B" as recommended	
Air Cleaner Dry			by manuf		
Transmission	M2C41-A DOT #015-22850			1000 hours	
Front and Rear Differential	Hypoid	80W90	80W90	1000 hours	
Hydraulic System Filter Hydraulic System	M2C48-A			200 hours 1000 hours	
General Chassis	Multi-purpose grease			Service at 20 hours	
Power Brake System	M6C34A				
Tire Pressure				45PSI	

Note "A": Do not use vehicle until the engine has run at least 2 minutes at less than quarter throttle. Run engine for at least 2 minutes at less than quarter throttle before shutdown.

Note "B": Check oil level at time of engine oil change, change oil and clean breather every other engine oil change. Use same viscosity and kind of oil used in engine.

Equipmen	t Force Feed Loader	Make	Pettibone
Class	40	Model	Speedloader 52CB

HALLT	KIND OF LUBRICANT	S	AĖ	REMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	Every 60 hrs.	
Air Cleaner		10W40	10W40	Service 60 hours	
Hyd. System	Hoist 0il	5W	5W		
Transmission	Transmission Oil	90	90	Check every 60 hours	
Transfer Case	Transmission Oil	90	90	Check every 60 hours	
General Chassis	Multi-purpose grease			Every 60 hrs.	
Steering Gear	Transmission Oil	90	90	Ck. 0 60 hrs.	
Wheel Bearings - Front	Multi-purpose grease			Service Annually	
Universal Joints	Multi-purpose grease			Handgun only	

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Equipment	Loader	Make	Windrow, Athey	
Class	40	Model	L, L03	

UNIT	KIND OF LUBRICANT		AE	REMARKS
VIIII	KIND OF EGBRICANT	Summer	Winter	REMARKS
Engine - Ford	Lube 0il	10W40	10W40	60 hours
Transmission	Transmission Oil	. 90	90	Change at 200 hours
Auxiliary Trans.	Transmission Oil	140	90	Change at 200 hours
General Chassis	Multi-purpose grease			Daily
Governor	Lube 0il	10W40	10W40	Daily
Distributor	Lube Oil	10W40	10W40	Daily
Air Cleaner - Oil Bath	Lube 0il	10W40	10W40	Daily
Differential	Hypoid Diff. Oil	140	90	Change every 200 hours
Transfer Case	Transmission Oil	140	90	Change every 200 hours
Bevel Gear and Pinion Housing	Transmission Oil	140	90	Change every 200 hours
Steering Gear	Transmission Oil	90	90	Weekly
Universal Joints	Multi-purpose grease			Handgun sparingly
Transfer Shaft Slip Joints	Multi-purpose grease			Change every 200 hours
Hydraulic System	Hoist Oil	5W	5W	
Hydraulic Pump Bearing	Multi-purpose grease			
				-

Equipment	Sweeper	Make	Ecolotec
Class	50	Model	MK IV

UNIT	KIND OF LUBRICANT	S	AE	DEMARKS
UNII	KIND OF LUBRICANT	Summer	Winter	REMARKS
Carrier Engine	Lube Oil	10W40	10W40	Every 60 hrs.
Rear Engine	LUbe Oil	· 10W40	10W40	Every 60 hrs.
Air Cleaners	Dry Type		Serv. & c	heck daily
Transmission	Dexron			Every 60 hrs.
Chassis	Multi-purpose			60 hrs.
Power Steering	Dexron		-	Every 60 hrs.
Wheel Bearings - Front				Repack annually
Differential	Hypoid	80W90	80W90	
Hydraulic System	Hoist Oil	5W	5W	Every 60 hrs.
Universal Joints	Multi-purpose			60 hours
Master Brake Cyl.	H.D. Fluid			60 hours
Rear Case Rear Unit	Transmission Oil	90	90	60 hours
Fan Box	Transmission Oil	90	90	60 hours
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Equipment	Self-Propelled Roller	Make	Ferguson	
Class	54, 55	Model	2-3 ton & 3-5 ton	

	KIND OF LUBRICANT	S	ΛĒ	DEMARKS	
UNIT		Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	Service every 60 hours	
Oil Cleaner - Oil Bath	Lube 0il	30	30	Daily	
Transmission	Transmission Oil	140	90	Annually	
General Chassis, etc.	Multi-purpose grease			As required	
Hydraulic System	Hoist Oil	5W	5W	Annually	
Clark Torque Converter	Lube 0il	10W40	10W40	Annually Drain water	
Roller Drum				in fall	

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Equipment	Roller	Make	Gallion	
Class	54, 55	Model	T5G	

	KIND OF LUBRICANT	Si	AÉ	DEMARKS	
UNIT		Summer	Winter	REMARKS	
Engine	Lube Oil	10W40	10W40	Service every 60 hours	
Air Cleaner	Lube 0il	30			
Hydraulic System	Hoist Oil	5W	5W	Annually	
Transmission	Transmission Oil	90			
General Chassis	Multi-purpose grease			As required	
Generator & Starter	Lube 0il	10W40	10W40		
Main Spur Gear	Chain Lubricant				

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Equipment	Self Propelled Roller	Make	Ingram
Class	54, 55	Model	9-2800-P

	KIND OF LUBRICANT	S	AÉ		
UNIT		Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	Every 60 hrs.	
Torque Converter	Dexron			Change every 500 miles	
Oil Filter				AC-PF-2	
Differential	Hypoid Oil	140	140	Annually Check every	
Hyd. Steering System	Dexron			60 hours	
Air Cleaner - Oil Bath	Lube Oil	10W40	10W40	Every 60 hrs.	
Generator	Lube Oil	10W40	10W40	Sparingly	
Starter	Lube 0il	10W40	10W40	Sparingly	

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Equipment .	Self Propelled Roller	Make	Rex
Class	54, 55	Model	6G Hydrostatic Drive

11117	KIND OF LURBICANT	S	AE	25342040
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube Oil	10W40	10W40	Chg. at 60 hrs
Air Cleaner	Lube Oil	10W40	10W40	
Transmission	Transmission Oil	90	90	Annually
Hydraulic System	Dexron			Annually
Control Linkage	Lube Oil	10W40	10W40	Monthly
Chassis	Multi-purpose grease			Daily
Starter	Lube 0il	10W40	10W40	
Main Gear	Chain Spray			
Bull Gear	Chain Spray			
Generator	Lube 0il	10W40	10W40	
Drive Roll .	Multi-purpose grease			Annually
Guide Roll	Multi-purpose grease			Annually
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LUBRICATION & MAINTENANCE

Equipment	3-5 Ton Roller -Self Propelled	Make	1976 Ferguson
Class	55	Model	w/Sunstrand Hydrosatic Drive

	KIND OF LUBRICANT	Si	SAE		
UNIT		Summer	Winter	REMARKS	
	H.D. Lube Oil	10W40	10W40	Serv. at 60 hr	
Engine	11.D. Lube of 1			Serv. as rec.	
Air Cleaner	Dry Element			bv mfg.	
Hydrostatic				C	
Transmission	Dexron Fluid			See note "A"	
Planetary Gear		00	00	Cha annually	
Drive	Transmission Oil	90	90	Chg. annually	
General Chassis				As magnined	
etc.	Multi-purpose grease		1	As required	
Guide Roll Axle and	1			See note "B"	
Compression Roll Brgs.	Multi-purpose grease			Jee note b	
				See note "C"	
King Pin	Multi-purpose grease			300 11000	
Trailing Wheel	W 11 i www.ssa.gno.350			Annually	
Bearings	Multi-purpose grease			7.1.7.144.1.19	
Spindle				See note "D"	
Guide Blocks					
Brake Linkage				See note "E"	
Bell Crank			 		
	Chain Spray			Every 4 hrs.	
Chain	chain optay			In fall	
D				drain water	
Drums					

This unit has the Sunstrand hydrostatic transmission. Change filter each 50-75 hours of operation and change fluid annually. Any oil additions Note "A":

should be filtered into the reservoir.

Pump in grease until the old grease is pushed out around the edge of the Note "B":

bearing collers. Grease weekly.

Repack upper and lower bearings annually. Note "C":

Note "D": Keep light coat of oil or grease on these blocks at all times.

Note "E": There are two bell cranks on the inside of engine compartment that must be greased weekly. To grease the lower bell crank remove the inspection plate in the lower front corner. This particular bell crank is often overlooked and binds up, making braking difficult.

Equipment	5-8 Ton Roller	Make Buffalo-Springfield
Class	56	ModelKT-16, T914G

UNIT	KIND OF LUBRICANT	S	SAE		
UNII	KIND OF LOBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	Serv. at 60 h	
General Chassis	Multi-purpose grease		·	As required	
Transmission	Transmission Oil	90		Annually	
Clutch Release Bearing	Multi-purpose grease			As required	
Fan and Water Pump	Multi-purpose grease		ļ	As required	
Power Steering	Hoist Oil	5W	5W	Serv. at 60 h	
Distributor Shaft	Lube 0il	10W40	10W40	Serv. at 60 h	
Generator & Starter	Lube 0il	10W40	10W40	Serv. at 60 h	
Air Cleaner	Lube Oil	10W40	10W40	Serv. at 60 h	
Main Gear & Pinion	Chain Spray			Serv. at 4 hr	
Roller Drum				each fall.	
		•			

Equipment	Mixer Pulverizer	Make .	Seaman	
Class	59	Model .	All except self propelled	

AINIT	KIND OF LUBBICANT		SAE		
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine-Waukesha	Lube 0il	10W40	10W40	60 hours	
Trans., Front	Transmission Oil	140		Annually	
Trans., Rear	Transmission Oil	140		Annually	
Differential, Axle	Hypoid Oil	140		Annually	
Final Drives, Axle	Hypoid Oil	140		Annually	
Rotor Gear Housing	Hypoid Oil	140		Annually	
<u>General Chassis</u> Universal Joints Needle Bearing	Multi-purpose grease Multi-purpose grease			Daily Handgun 60 hours	
Propeller Shaft Slip Joint	Multi-purpose grease			60 hours	
Motor Fan	Multi-purpose grease			As required	
Clutch Throwout Bearing	Multi-purpose grease			As required Sparingly	
Clutch Pilot Bearing	Multi-purpose grease			60 hours	
Air Cleaner - Oil Bath	Lube 0il	10W40	10W40	Daily	
Breather	Lube 0il	10W40	10W40	Daily	
Generator & Starter	Lube 0il	10W40	10W40		
Distributor Shaft	Multi-purpose grease				
Distributor Auto. Adv.	Lube 0il	10W40	10W40		
Water Pump	Multi-purpose grease				
Hyd. System	Hydraulic Hoist Oil	5W .	5W		
Pinion Shaft	Multi-purpose grease			Ea. 30 hours	

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Equipment	Self Propelled Mixer Pulverizer	Make	Seaman & Wall	
Class	59	Model	GS 7 Gas & Diesel	

UNIT	KIND OF LUBRICANT	S	DEMARKS		
	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10W40	60 hours	
Air Cleaner Oil Bath	Lube Oil	10W40	10W40	60 hours or as required	
Universal Joints	Transmission Oil	140		8 hours	
Clutch Release Bearing	Multi-purpose grease			60 hours	
Spring Shackles	Multi-purpose grease			8 hours	
Steering Linkage	Multi-purpose grease			8 hours	
Torque Tube Bearing	Transmission Oil	140		60 hours	
Motor Housing	Hypoid Oil	140		Annually	
Differential	Hypoid Oil	140		Annually	
Final Drive	Hypoid Oil	140		Annually	
Second Speed Aux. Trans.	Transmission Oil	140		Annually	
Fifth Speed Transmission	Transmission Oil	140		Annually	
Steering Gear	Hypoid Oil	140			
Hydraulic Oil Reservoir	Hoist 0il	5W	5W		
Generator & Starter	Lube 0il	10W40	10W40		
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Equipment	Air Compressor	Make	Le Roi
Class	B Grp 092	Model	125 Rotary Single Stage

UNIT	KIND OF LUBRICANT	S	SAE	
UNII		Summer	Winter	REMARKS Change at
Engine	Lube 0il	10W40	10W40	60 hours
Chassis	Multi-purpose grease			Seasonal re-
Compressor	Hoist 0il	5W	5W	gardless of hr
Air Cleaner	Dry type or Mitronic	At 100 I	nours or a	necessary
Wheel Bearings	Multi-purpose grease		_	Annually
Starter	Lube 0il	10W40	10W40	
Distributor	Lube 0il	10W40	10W40	
Compressor Oil Filter				At 100 hours

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Equipment	Air Compressor	Make Joy
Class	B Grp 092	Model RP 125

		SA	DEMARKS	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	60 hours
Compressor	Lube 0il	10W40	10W40	500 hours
Air Cleaner	0i1	10W40	10W40	
Generator	Lube 0il	10W40	10W40	
Starter	LUbe 0il	10W40	10W40	
Distributor Air Filter	Lube Oil Check air filter indicator for condition of air filter	10W40	10W40 Daily or of operat	every 8 hours
Compressor Compressor Oil Filter Element	Condition of all lives			500 hours See Maint.
Oil Separator Element				Manual
Wheel Bearings	Multi-purpose grease			Annually
		<u></u>	<u> </u>	

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Equipment Air Compressor	Make	Sullivan
Class B Grp 092	Model	150G Portable Screw

UNIT		S	SAÉ	DEMARKS	
	KIND OF LUBRICANT	Summer	Winter	REMARKS	
Engine	Lube 0il	10W40	10w40	Chg. at 60 hrs.	
Compressor	H.D. lube Oil	10W40	10W40	Chg. at 300 hrs	
General Chassis	Multi-purpose grease				
Filter Air Comp.				300 hrs.	
			When rest need	ricter shows	
Oil Filter (engine)				60 hours	
Air/Oil Separator				As needed	
Wheel Bearing				Annually	

Equipment	Air Compressor	Make	Davey
Class	B Grp 092	Model	85 & 125 RPV, 250 Rotary

	KIND OF LUBBIOANT	S	AE	REMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	
Engine	H.D. Lube 0il	10W40	10W40	Change every 60 hrs.
Compressor	H.D. lube Oil	10W40	10w40	Change every 60 hrs.
Compressor Fan	Multi-purpose grease			
Generator & Starter	Lube 0il	10W40	10w40	
Air Cleaner, Oil Bath	Lube 0il	10W40	10w40	
Wheel Bearings	Multi-purpose grease		See Note	HAII
Unloader Cylinder	Multi-purpose grease		50 hours	"A" every
Receiver Oil Seperator	Lube 0il	10W40	10W40	See note "B" for RPV only
Speed Control	Lube 0il	10W40	10W40	See note "C" for RPV only
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Remove slotted plug and install grease fittings; one shot only. Note "A":

Replace pipe plug.

Compressor oil filter - remove, clean and dry element, soak in oil before reinstalling. Note "B":

See manufacturer's manual. Note "C":

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Equipment Air Compressor	MakeIngersoll Rand
Class B Grp 092	Model GR 85

	WIND OF LURDICANT		SAÉ	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS Change ever
Engine	Lube 0il	10W40	10W40	60 hrs.
Chassis	Multi-purpose grease			
Compressor	Lube 0il	10W40	10W40	Annually
Air Cleaner	Lube 0il	30	10	
Wheel Bearings	Multi-purpose grease			Annually
Generator	Lube 0il	10W40	10W40	
Starter	Lube 0il	10W40	10W40	
Distributor	Lube 0il	10W40	10W40	

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Equipment	Air Compressor	Make	Worthington
Class	B Grp 092, 093	Model	All Rotary

UNIT	KIND OF LUBRICANT	S	AE	DEMARKS
	KIND OF LUBRICAN I	Summer	Winter	REMARKS
Motor (cont. 193)	Lube 0il	10W40	10W40	60 hours
Compressor	Lube 0il	10W40	10W40	60 hours
Air Cleaner	Lube 0il	10W40	10W40	-
Chassis	Multi-purpose grease			Annually
Wheel Bearings	Multi-purpose grease			Annually
Generator	Lube 0il	10W40	10W40	
Starter	Lube 0il	10W40	10W40	
Distributor	Lube Oil	10W40	10W40	
Compressor Air Cleaner	Lube 0il	10W40	10W40	
Oil Filter Engine				60 hours
Air/Oil Separator				Annually

Equipment	Air Compressor	Make	Worthington	
Class	B Grp 092, 093	Model	All Except Rotary	

	KIND OF LUBBIOANT	S	SAE	
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine	Lube 0il	10W40	10W40	Change every 60 hrs.
General Chassis	Multi-purpose grease			Annually
Clutch Release Bearing	Multi-purpose grease			60 hours
Clutch Shoe Pins	Multi-purpose grease			60 hours
Wheel Bearings	Multi-purpose grease			60 hours
Water Pump	Multi-purpose grease			60 hours
Distributor	Lube 0il	10W40	10W40	
Generator & Starter	Lube 0il	10W40	10W40	
Air Cleaner, Oil Bath	Lube 0il	10W40	10W40	
Oil Cups	Lube 0il	10W40	10W40	
Governor and Throttle Linkage	Lube 0il	10W40	10W40	
Pilot Bearing	Multi-purpose grease			Change every
Compressor	Lube 0il	10W40	10W40	60 hrs.
Compressor Intercooler Fan	Multi-purpose grease			
Motor Fan	Multi-purpose grease			
Oil Filter				60 hours

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Equipment	Air Compressor	Make	Ingersoll Rand
Class	B Grp 093	Model	250

The second secon	oz	S	AÉ	DEMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
Engine Diesel	Lube 0il	10W40	10W40	60 hours 500 hours or
Compressor	Lube 0il	10W40	10W40	annually
Fuel Filters				Annually
Chassis	Multi-purpose grease			
Air Cleaner	Dry Element			Service at eve
Compressor Oil Filter Oil Line Screen and				oil change Clean at 1000 hours annually
Orifice				nours annuarry
Chassis	Multi-purpose grease			
Wheel Bearings	Multi-purpose grease			Annually
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Note: Drain condensate from receiver seperator daily.

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Equipment Air Compressor

LUBRICATION & MAINTENANCE

__ Make ____

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		SAE		DEMARKS
UNIT	KIND OF LUBRICANT	Summer	Winter	REMARKS
ngine	Lube 0i1	10W40	10W40	
ompressor	DOT #015-019400			See Note "A
ir Cleaner	Lube 0i1	10W40	10W40	
ompressor Oil	Check service procedures			Clean at 100 hours
ilter istributor	Remove plug on rotor shaft fill with engine oil			500 hours
tarter	Check service procedures			1000 hours
ir/Oil Separator				Annually

Note "A": Order form the Iowa Department of Transportation Stock 015-019400 Center Line compressor oil (Texaco Regal AR & 0)

