

SECTION 1

GENERAL INFORMATION AND MANUAL USAGE

1-1. SAFETY PRECAUTIONS.

1-1.1 Refer to the Safety Summary on page i, and observe all WARNINGS and CAUTIONS when servicing the tractors covered in this manual.



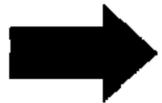
WARNING

This symbol indicates safety instructions which, if not followed, could cause personal injury and/or damage to the tractor component being serviced.



CAUTION

This symbol indicates instructions which, if not followed, could cause failure of the tractor component or could result in an environmental hazard.



NOTE

This symbol indicates general information which should be given special attention.

1-2 GENERAL.

1-2.1 This service manual cover Series 2000 tractors, mower decks and selected attachments. See Table 1-1. Service instructions for engines are detailed in separate service manuals. Refer to Appendix A, Related Service Manuals.

Table 1-1. Equipment in this Manual.

DESCRIPTION	MODEL NUMBER
Series 2000 Tractor	2130
Series 2000 Tractor	2135
Series 2000 Tractor	2140
Series 2000 Tractor	2145
Series 2000 Tractor	2160
Series 2000 Tractor	2165
Series 2000 Tractor	2185
38" Mower Deck	Standard on models 2130 and 2135
42" Mower Deck	Standard on models 2140 and 2145
46" Mower Deck	190-300
48" Mower Deck	190-301
38" Mulching Attachment	190-314
42" Mulching Attachment	190-315
42" Spring Trip Blade	190-302
40" Snowthrower	190-303
28" Tiller	190-304

1-3 REFERENCE DATA.

1-3.1 **Specifications.** Specifications for each tractor model are contained in Tables 1-2 through 1-8.

1-3.2 **Serial Number Location.** The chassis serial number plate is located on the left hand side of the frame under the running board. Refer to Figure 1-1.

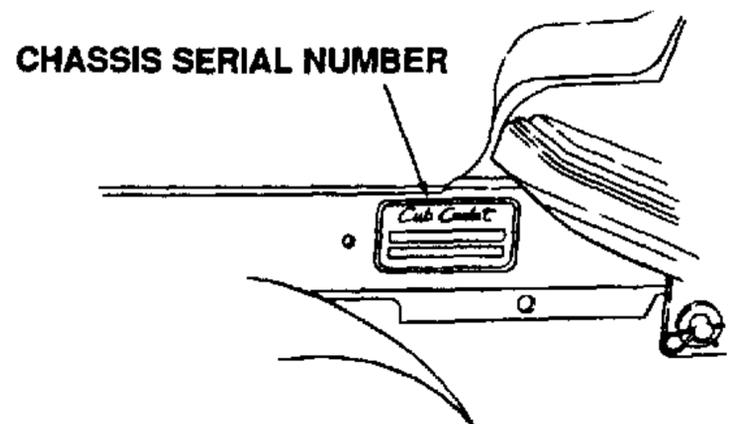


Figure 1-1. Chassis Serial Number Plate.

1-3.3 **Position Reference.** All references to LEFT, RIGHT, FRONT and REAR indicate that position on the tractor when seated in the operators position, unless specifically instructed to reference from a different position on the tractor.

1-4 FACILITIES.

1-4.1 The minimum requirement for facilities sufficient to service the tractors, decks and accessories covered in this manual is a normally equipped shop for the service of commercial power equipment.

1-5 SPECIAL SERVICE INFORMATION.

1-5.1 **Dealer Preparation.** Section 2 contains a check list of recommended procedures to be performed during pre-delivery set up of the tractors covered in this manual.

1-5.2 **Preventive Maintenance.** Maintenance schedules and lubrication guides for each Model are contained in Section 3.

1-5.3 **Troubleshooting.** Section 4 contains troubleshooting and testing information for the various systems and components of the tractors covered in this manual.

1-5.4 **Corrective Maintenance.** Instructions necessary to identify and correct problems are contained in Section 5.

1-5.6 **Adjustments.** Information on adjusting various system components is contained in Section 6.

1-5.7 **Attachments.** Information on selected attachments is contained in Section 7.

1-5.8 **Appendices.** The appendices contain the following support information:

- a. Appendix A — List of related Engine Service Manuals.
- b. Appendix B — List of bulk service items needed to maintain and service the equipment covered in this manual.
- c. Appendix C — Testing procedures for selected electrical components.
- d. Appendix D — Complete electrical schematics for each tractor.
- e. Appendix E — A graphic listing of electrical connectors/insulators available from Cub Cadet.
- f. Appendix F — Information concerning mower deck belt problems and possible causes.
- g. Appendix G — Information regarding the operation of the mower deck.
- h. Appendix H — General torque data charts and conversion tables.

Table 1-2. Model 2130 Specifications

	2130
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	4 pints
Transmission Case (approximately)	6 qts.
SIX SPEED DRIVE	
Speed: Forward	0 to 5 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	Kohler Command
Horsepower	12.5 HP
Cylinders	1
Bore	3.43 in.
Stroke	2.64 in.
Displacement (cubic inches)	24.29
Engine Speed (governed)	
Low Speed	1400 RPM
High Speed (no load)	3600 RPM ± 75
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3336) .....	.040 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	15 x 6-6
Rear	20 x 9-8
DIMENSIONS	
Tread:	
Front with 15 x 6-6 tires	30.00 in.
Rear with 20 x 9-6 tires	27.50 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all (w/ mower deck - chute up)	45.00 in.
Height, over all (to top of steering wheel)	42.00 in.
Ground Clearance	6.00 in.
Turning Radius	26.50 in.

Specifications are subject to change without notice.

Table 1-3. Model 2135 Specifications

	2135
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	4 pints
Transmission Case (approximately)	6 qts.
HYDROSTATIC DRIVE	
Speed: Forward	0 to 5.5 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	Kohler Command
Horsepower	12.5 HP
Cylinders	1
Bore	3.43 in.
Stroke	2.64 in.
Displacement (cubic inches)	24.29
Engine Speed (governed)	
Low Speed	1400 RPM
High Speed (no load)	3600 RPM \pm 75
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3336) .....	.040 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	15 x 6-6
Rear	20 x 9-8
DIMENSIONS	
Tread:	
Front with 15 x 6-6 tires	30.00 in.
Rear with 20 x 9-6 tires	27.50 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all (w/ mower deck - chute up)	45.00 in.
Height, over all (to top of steering wheel)	42.00 in.
Ground Clearance	6.00 in.
Turning Radius	26.50 in.

Specifications are subject to change without notice.

Table 1-4. Model 2140 Specifications

	2140
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	4 pints
Transmission Case (approximately)	6 qts.
SIX SPEED DRIVE	
Speed: Forward	0 to 5 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	Onan Elite
Horsepower	14 HP
Cylinders	1
Bore	3.31 in.
Stroke	2.76 in.
Displacement (cubic inches)	23.7
Engine Speed (governed)	
Low Speed	1400 RPM
High Speed (no load)	3600 RPM ± 75
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3340) .....	.035 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	15 x 6-6
Rear	20 x 9-8
DIMENSIONS	
Tread:	
Front with 15 x 6-6 tires	30.00 in.
Rear with 20 x 9-6 tires	27.50 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all (w/ mower deck - chute up)	51.00 in.
Height, over all (to top of steering wheel)	42.00 in.
Ground Clearance	6.00 in.
Turning Radius	26.50 in.

Specifications are subject to change without notice.

Table 1-5. Model 2145 Specifications

	2145
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	4 pints
Transmission Case (approximately)	6 qts.
HYDROSTATIC DRIVE	
Speed: Forward	0 to 5.5 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	Onan Elite
Horsepower	14 HP
Cylinders	1
Bore	3.31 in.
Stroke	2.76 in.
Displacement (cubic inches)	23.7
Engine Speed (governed)	
Low Speed	1400 RPM
High Speed (no load)	3600 RPM ± 75
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3340) .....	.035 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	15 x 6-6
Rear	20 x 9-8
DIMENSIONS	
Tread:	
Front with 15 x 6-6 tires	30.00 in.
Rear with 20 x 9-6 tires	27.50 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all (w/ mower deck - chute up)	51.00 in.
Height, over all (to top of steering wheel)	42.00 in.
Ground Clearance	6.00 in.
Turning Radius	26.50 in.

Specifications are subject to change without notice.

Table 1-6. Model 2160 Specifications

	2160
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	3 pints 8 oz.
Transmission Case (approximately)	6 qts.
SIX SPEED DRIVE	
Speed: Forward	0 to 5.5 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	B & S Vanguard
Horsepower	16 HP
Cylinders	2
Bore	2.68 in.
Stroke	2.60 in.
Displacement (cubic inches)	29.3
Engine Speed (governed)	
Low Speed	1200 RPM
High Speed	
(no load)	3600 RPM
(full load)	3350 RPM
Valve Clearance (engine cold)	
Intake .....	.004-.006 in.
Exhaust .....	.004-.006 in.
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3336) .....	.030 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	16 x 6.5-8
Rear	23 x 9.5-12
DIMENSIONS	
Tread:	
Front with 16 x 6.5-8 tires	31.5 in.
Rear with 23 x 9.5-12 tires	30.25 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all	39.00 in.
Height, over all (to top of steering wheel)	43.00 in.
Ground Clearance	6.00 in.
Turning Radius	28.00 in.

Specifications are subject to change without notice.

Table 1-7. Model 2165 Specifications

	2165
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	3 pints 8 oz.
Transmission Case (approximately)	6 qts.
HYDROSTATIC DRIVE	
Speed: Forward	0 to 6 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	B & S Vanguard
Horsepower	16 HP
Cylinders	2
Bore	2.68 in.
Stroke	2.60 in.
Displacement (cubic inches)	29.3
Engine Speed (governed)	
Low Speed	1200 RPM
High Speed	
(no load)	3600 RPM
(full load)	3350 RPM
Valve Clearance (engine cold)	
Intake .....	.004-.006 in.
Exhaust .....	.004-.006 in.
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3336) .....	.030 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	16 x 6.5-8
Rear	23 x 9.5-12
DIMENSIONS	
Tread:	
Front with 16 x 6.5-8 tires	31.5 in.
Rear with 23 x 9.5-12 tires	30.25 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all	39.00 in.
Height, over all (to top of steering wheel)	43.00 in.
Ground Clearance	6.00 in.
Turning Radius	28.00 in.

Specifications are subject to change without notice.

Table 1-8. Model 2185 Specifications

	2185
CAPACITIES	
Fuel Tank	3 gallons
Crankcase (approximately)	4 pints
Transmission Case (approximately)	6 qts.
HYDROSTATIC DRIVE	
Speed: Forward	0 to 6 mph
Reverse	0 to 3 mph
ENGINE	
Make and Model	Kohler Command
Horsepower	18 HP
Cylinders	2
Bore	3.03 in.
Stroke	2.64 in.
Displacement (cubic inches)	38.1
Engine Speed (governed)	
Low Speed	1200 RPM
High Speed	
(no load)	3600 RPM
(full load)	3350 RPM
Ignition	Battery
Spark Plug Gap (Cub Cadet No. 759-3336) .....	.040 in.
ELECTRICAL SYSTEM	
System Voltage	12 volt neg. ground
Battery	725-1635
Alternator	15 amp regulated
Fuse (auto type)	20 amp
Head Lamp Bulb	759-3693
BRAKES	Internal expanding
TIRE SIZES	
Front	16 x 6.5-8
Rear	23 x 9.5-12
DIMENSIONS	
Tread:	
Front with 16 x 6.5-8 tires	31.5 in.
Rear with 23 x 9.5-12 tires	30.25 in.
Wheelbase	47.00 in.
Length, over all	72.00 in.
Width, over all	39.00 in.
Height, over all (to top of steering wheel)	43.00 in.
Ground Clearance	6.00 in.
Turning Radius	28.00 in.

Specifications are subject to change without notice.

WORK SAFELY — FOLLOW THESE RULES



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

1. To prevent accidental starting, always pull the high tension wire(s) off the spark plug(s) before servicing and/or adjusting the machine.
2. To prevent injury, do not allow children or bystanders in the vicinity of the machine while it is being adjusted and/or serviced.
3. Do not wear jewelry (rings, wrist watches, necklaces, etc.) or loose fitting clothing when working on machinery; they could catch on moving parts, causing serious injury. Wear sturdy, rough-soled work shoes. Never adjust and/or service a machine in bare feet, sandals or sneakers.
4. Always wear safety glasses when using a hammer, chisel or other tools that may cause chips to fly.
5. Be sure to reinstall all safety devices, guards or shields after adjusting and/or servicing the machine.
6. When operating a power washer to clean a machine before servicing, be careful at all times to avoid injury. Maintain proper footing and balance at all times. Never direct the spray at people or animals, as high pressure spray can cause serious injury.
7. If a portable heater is used to heat the service area, the following precautions must be observed:
 - a. Do not use portable heaters in the presence of volatile materials such as gasoline, paint or paint thinner. A fire or explosion may result.
 - b. When in operation, locate the heater away from the immediate work area to avoid accidental contact, which could result in severe burns or ignite your clothing.
 - c. Portable heaters consume oxygen and emit hazardous combustion fumes. A heater should be used only in a well ventilated area. Keep a window or door partially open to provide ventilation.
 - d. Keep the heater at least four feet from all combustible materials.
 - e. Never use gasoline as fuel.
8. Gasoline is highly flammable — observe the following precautions when handling gasoline:
 - a. Use an approved gasoline container.
 - b. Never remove the fuel tank cap or fill the fuel tank when the engine is running, is hot, or is indoors. **DO NOT SMOKE** when working around flammable fuel.
 - c. Avoid fires — be sure container or funnel does not touch the battery. Do not overfill the fuel tank. Wipe up all spilled gasoline.
 - d. Replace fuel tank cap securely.
9. Never use trouble lights or electric powered tools that have cut or damaged cords or plugs. Be sure all electric tools are properly grounded.
10. Never run an engine in a confined area, such as a garage or storage building, any longer than is necessary for immediate moving of the machine out of or into the area. **EXHAUST GASES ARE TOXIC. OPENING DOORS AND WINDOWS MAY NOT PROVIDE ADEQUATE VENTILATION.**
11. After servicing, be sure all tools, spare parts, and/or servicing equipment are removed from the machine.
12. Electrical storage batteries give off highly flammable hydrogen gas when charging, and continue to do so for some time after receiving a steady charge. Do not, under any circumstances, allow an electrical spark or an open flame near the battery. Always disconnect the battery cables (negative cable first) before working on the electrical system.
13. Hydraulic fluid escaping under pressure can have enough force to penetrate the skin. Hydraulic fluid may also infect a minor cut or opening in the skin. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately.

Do not attempt to repair or tighten hoses that are under pressure or with the tractor engine running. Cycle all hydraulic control valves to relieve all pressure before disconnecting lines or performing other work on the hydraulic system. Make

sure all connections are tight and hoses and lines are in good condition before applying pressure to the system. To locate a leak under pressure, use a small piece of cardboard or wood. Never use your hands.

14. When using a welder or acetylene torch, always wear welding goggles and gloves. Keep a charged fire extinguisher within reach. Do not weld or heat areas near the fuel tank, fuel lines, hydraulic lines, or battery.
15. Always use safety stands in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load; it could fail, causing serious injury and/or damage. Be sure jack stands are properly positioned to prevent tipping or rollover.
16. When removing supporting components or disassembling machines, be sure to use safety stands and adequate supports to prevent tipping or rollover and to prevent components from falling.

17. Use a safety catch on all hoist hooks. Do not take a chance, the load could slip off the hook.
18. Use pullers to remove bearings, bushings, gears, sleeves, etc. when applicable. Use hammers, punches and chisels only when absolutely necessary. Then, be sure to wear safety glasses.
19. Petroleum based solvents used for cleaning parts are flammable. Use care to avoid fire or explosion when using these solvents.
20. Be careful when using compressed air to dry parts. Use approved air fixtures, do not exceed 30 psi, wear safety glasses or goggles, and use proper shielding to protect everyone in the work area.

IMPORTANT: The above is only a partial list of safe work rules. In addition, always refer to the Operator's Manual for the specific machine for additional safe work rules regarding the machine operation.