



# BOLENS

FMC CORPORATION, BOLENS DIVISION, PORT WASHINGTON, WISCONSIN

## HUSKY TRACTOR



Owner Operation  
AND  
Maintenance Manual

## Finest HUSKY ever built . . .

Back in 1919 Bolens engineered, manufactured and introduced the *first* garden tractor . . . your new HUSKY represents years of research, engineering and manufacturing know-how. It's the finest HUSKY ever built. The information and suggestions contained in this manual can help you enjoy efficient, trouble free performance and to know the advantages and features built into your HUSKY.

Your Bolens dealer has been carefully chosen, well trained and equipped to inspect and service your equipment for top performance through all the years you use it. Take your HUSKY to him at regular intervals (see maintenance guide on page 13) for inspection and servicing.

Thank you for choosing the HUSKY tractor. Our continued interest will be to increase your satisfaction in Bolens products.

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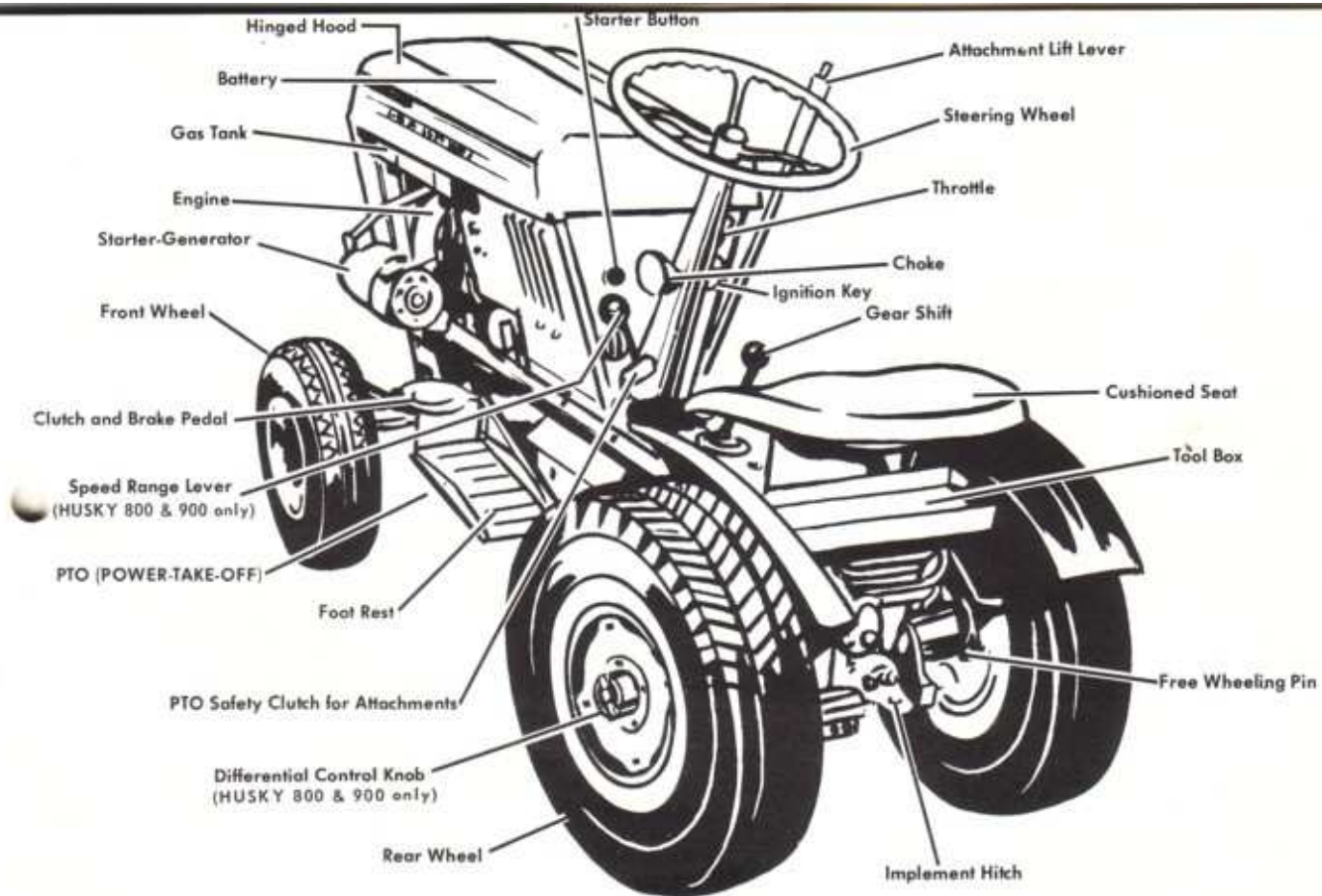
# Operating Instructions

## **Breaking-in Period**

As with a new car your new tractor should receive special attention. In the first few hours of operation it is best to vary the engine speed . . . avoid full-throttle driving, quick starts and stops until you've become well acquainted with your tractor. **IMPORTANT: THE TRACTOR IS SHIPPED FROM THE FACTORY WITHOUT OIL IN CRANKCASE AND AIR CLEANER. SEE LUBRICATION GUIDE, PAGE 11 AND ENCLOSED ENGINE FOLDER.**

## **For best results**

Both the tractor and engine have been fully tested by the factory and your dealer to assure you complete satisfaction. Read this manual carefully . . . if you have any questions that are not answered in this manual, ask your dealer.



# Starting the Engine

Read the separate, enclosed Engine folder to become acquainted with its operation.



## MANUAL STARTING

1. Turn on ignition key. Keep PTO safety clutch in OFF position while starting, and gear shift in neutral.
2. Choke lever all the way back. More or less choking may be necessary due to variations in temperature, grade of fuel, etc.
3. Open throttle about 1/2 way until engine starts, then adjust to desired speed.
4. Give a quick steady pull on starter rope or recoil starter.
5. Return choke to open position immediately after engine has started.
6. To stop, turn key off, place gear shift in neutral. Remove ignition locking key when tractor is not in use.

## ELECTRIC STARTING

1. Turn on ignition key. Keep PTO safety clutch in OFF position while starting, and gear shift in neutral.
2. Choke lever all the way back. More or less choking may be required due to variations in temperature, grade of fuel, etc.
3. Open throttle about 1/2 way until engine starts, then adjust to desired speed.
4. Press starter button.
5. Return choke to open position after engine has started.
6. To stop, turn key off, place gear shift in neutral. Remove ignition locking key when tractor is not in use.

## EMERGENCY STARTING — HUSKY 800 & 900

In case of electrical failure remove the generator belt and follow same procedure as for manual starting.

## EMERGENCY STARTING — HUSKY 600

In case of electrical failure wind rope around starter cup pulley and follow same procedure as for manual starting. Generator belt does not have to be removed on Husky 600.



## CHANGING SPEED RANGES—HUSKY 600

Speed range setting may be changed with a simple belt setting change. Never attempt to make belt setting change while the engine is running. The drive belt is positioned in the HIGH speed range when assembled at the factory (belt from large section of engine pulley to small section of drive shaft pulley). To change belt setting proceed as follows: (1) open tractor hood exposing clear view of belt; (2) hold or clamp clutch pedal down to release belt tension; (3) move the drive belt from large front groove to small rear groove on engine pulley; (4) slide the belt from the small front groove to the large rear groove of drive shaft pulley located below the tractor frame; (5) release clutch pedal and check belt to see that it is properly seated in corresponding grooves. To return belt to HIGH speed range simply reverse the procedure by changing the belt on the drive shaft pulley first and then complete operation on the engine pulley. NOTE: Always begin on the pulley where the belt is in the large groove and complete the operation on the opposite pulley.

GEAR	LOW SPEED RANGE	HIGH SPEED RANGE
1st	3/4 mph*	2 mph*
2nd	1-1/4 mph*	3-1/2 mph*
3rd	2 mph*	6 mph*

\* Speed at high throttle adjustment. The speed will decrease in each gear as the throttle is adjusted towards idle. Speeds may vary depending on road or ground condition and weight attached to tractor.

## Three-Speed Transmission

The HUSKY 800, 900 and 600 feature a 3-speed geared transmission plus a second range to give you a wide range of operating speeds. To prevent damage to gears, do not shift gears while tractor is in motion. HIGH speed range is most practical for transport, average mowing or pulling light attachments. LOW speed range is best for heavy jobs such as tilling, plowing, snow casting and mowing tall or lush grass.



**CHANGING  
SPEED  
RANGES  
HUSKY 800  
& 900**

Speed range selector lever is controlled from the driver's seat: HIGH speed range—move lever to left and push forward until lever returns to right.

LOW speed range—move lever to left and pull rearward until lever return to right. (See instruction decal below lever.) Be sure gear shift is in neutral or clutch pedal is depressed when changing speed ranges.

## Controlled Differential

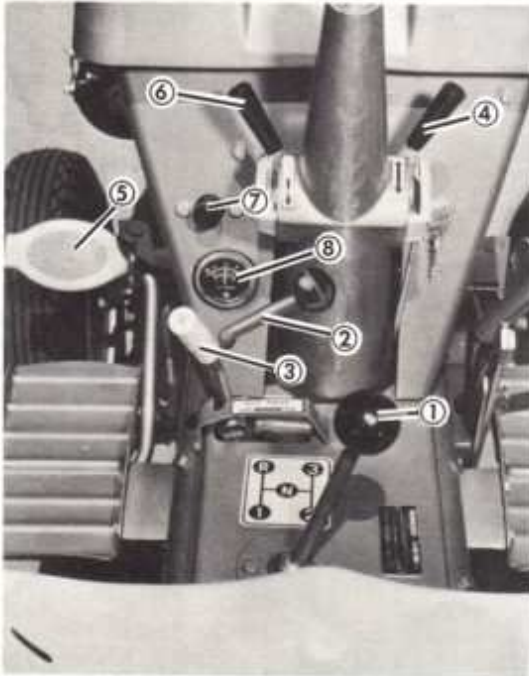
(HUSKY 800 & 900)



By turning control knob on left-rear wheel, you can vary the degree of differential traction up to nearly straight axle drive. For jobs such as plowing or snow casting, turn the knob clockwise until desired degree of drive to both wheels is obtained. For mowing, or other lighter jobs, be sure to have control knob in standard differential position (turn control knob counter-clockwise all the way out to stop disc) to avoid gouging or scuffing caused by both wheels driving on turns. Differential can be controlled with left hand from the driver's seat while engine is running in neutral but tractor wheels should be stopped. (NEVER TIGHTEN WITH WRENCH).



## Instruments, Controls and Maintenance



### GEAR SHIFT LEVER

- ① 3-speeds ahead, 1 reverse. See instructions on Page 7.

### TWO SPEED RANGE LEVER (HUSKY 800 & 900)

- ② Provides a total of 6 speeds ahead, 2 reverse from less than 3/4 mph to 6 mph. See instructions on page 7.

### PTO CLUTCH

- ③ A touch instantly disengages power to attachments.

### THROTTLE

- ④ Push lever forward for full throttle or vary to any speed in between.

### CLUTCH & BRAKE PEDAL

- ⑤ Depress foot pedal half-way down for clutch all the way down for brake.

### CHOKE

- ⑥ To start tractor, pull back choke lever and replace to open position immediately after engine has started.

### STARTER BUTTON

- ⑦ Optional equipment starter. See starting instructions on page 6.

### AMMETER

- ⑧ (HUSKY 800, & 900 only)



**BATTERY** — Keep cables and terminals clean and apply a light coat of vaseline or oil for protection. Check battery bracket for corrosion and keep clean.



**AIR CLEANER** — Remove and clean frequently for best engine performance. Fill to marked level with same grade of oil as in crankcase.

**SPARK PLUG** — Remove all dirt from base of spark plug before removing. A gap of .030 inch should be maintained between electrodes for Wisconsin Engine.

A gap of .025 inch should be maintained between electrodes for Briggs & Stratton Engine. See Engine folder for replacement of defective plug.



**WISCONSIN ENGINE  
HUSKY-800 & 900**



**BRIGGS & STRATTON  
ENGINE HUSKY-600**

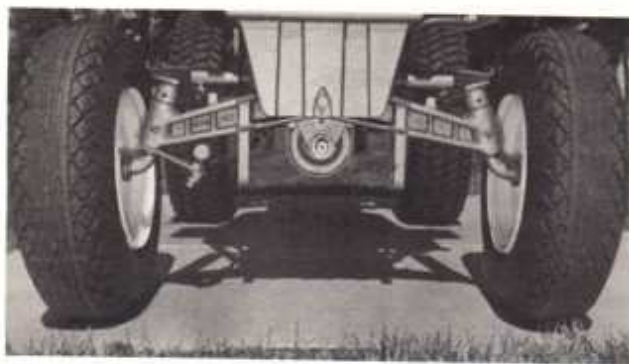
See separate engine folder  
for further information.



**FUEL TANK** — Fill with clean, fresh gasoline of regular grade. DO NOT MIX OIL WITH GASOLINE. Check to see that vent hole in fuel tank cap is not plugged.



**ATTACHMENT LIFT LEVER** — Depress thumb button on handle to raise or lower attachments and lock in any of 6 positions. Needle-bearing universal joints allow you to raise or lower attachments while the tractor is under full power without danger of damaging the drive shaft mechanism.



**HUSKY 600 & 800 PNEUMATIC TIRES** — Keep pneumatic tires properly inflated to 12 to 18 lbs. front tires and 6 to 9 lbs. rear. Check air pressure regularly with low pressure gauge having one-pound graduations. Over or under inflation will result in damage to the tires.

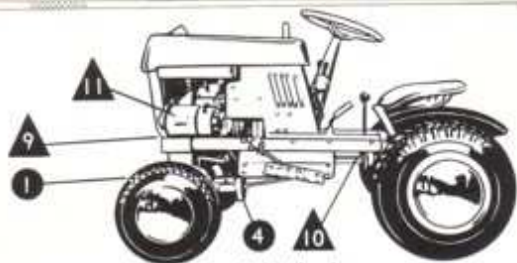
**HUSKY 900** Front 4 to 6 Lbs; Rear 6 to 8 Lbs.



**WHEEL WEIGHTS  
TIRE CHAINS  
CHROME HUB CAPS**

Available as optional equipment.

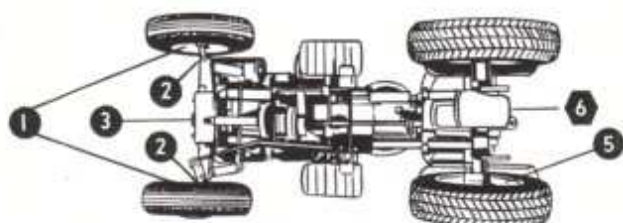
# Lubrication



Left side view



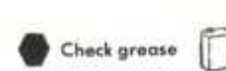
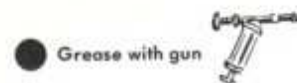
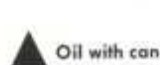
Right side view



Bottom view

1. Front wheel grease fitting
2. Front wheel spindle
3. Front axle pivot
4. PTO Housing
5. Rear wheel hub
6. Transmission (SAE #90)
7. Air cleaner
8. Engine crankcase
9. Hood hinge
10. Brake linkage
11. Starter-generator oil cups
12. Attachment lift lever

(Numbers within each symbol designate lubrication area)



See separate engine folder for amount and type of oil for various temperatures.

# Maintenance Guide

	After every 10 hours of operation	After every 25 hours of operation	After every 50 hours of operation
Check battery		●	
Check air in tires		●	
Check engine crankcase oil	●		
Drain engine crankcase oil			●
Check transmission oil (and add to filler plug level as needed)		●	
Check Cooling air screen	●		
Lubrication points (See lubrication guide, page 12)	●		
Brake adjustment			●
Rear axle adjustment			●
Change oil in air cleaner (Fill to marked level with same grade of oil as in crankcase)	● *		

\* More often under extreme dusty conditions



# Adjustments

## HUSKY 800 & 900

### Belt adjustment and replacement.

#### To Remove PTO Belt

1. Move Speed Range lever halfway between low and high range so that belt tightener does not contact the belts.
2. Loosen belt guide from PTO support and remove PTO belt from pulley.
3. Loosen the two capscrews (A) that hold belt guides to engine - just enough to swing guides away from engine pulley.
4. Remove the two drive belts from engine pulley.
5. Remove PTO belt.

To install PTO belt, reverse the above procedure. Be sure belt guides are properly positioned on the engine. Locator on back of belt guide should fit into groove on face of engine.

#### To Remove Drive Belts

1. Follow steps 1, 2, 3 and 4 listed above.
2. Remove nut and washers from front end of the drive shaft. (To keep driveshaft from turning while removing nut, hold it with a wrench across T bar welded to back end of driveshaft.)
3. Remove the four capscrews (B) and washers that hold bearing support to the mounting plate assembly.
4. Remove bearing support by sliding it off front end of driveshaft.
5. Remove drive belts.

To install new belts reverse the above procedure. Be sure belt guides are properly positioned on the engine. Locator on back of belt guide should fit into groove on face of engine.

#### PTO Belt Adjustment

The PTO belt can be adjusted by loosening the three capscrews (C) that hold PTO support casting

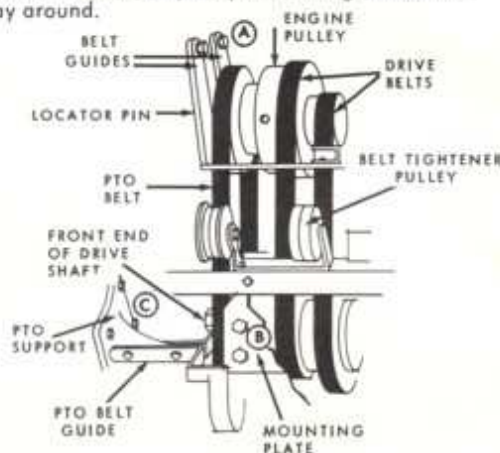
to axle support casting. Raise or lower PTO support casting to proper adjustment.

#### Drive Belt Adjustment

The drive belts can be adjusted by loosening the four capscrews (B) holding the bearing support plate to mounting plate. Raise or lower the bearing support plate to proper adjustment.

**IMPORTANT:** A loose drive belt will slip under load and one that is too tight will drag in the pulleys. Proper adjustment of belts will allow belt tightener pulley to move approximately two inches from disengaged position before it is stopped by belt.

If belts are properly adjusted (as described above) and still drag, check adjustment of lower belt guide. There should be approximately 1/8" clearance between pulley and belt guide all the way around.



## HUSKY 600

### Belt Adjustment and Replacement

The idler pulley for the drive belt is positioned in outside hole of idler control arm. If through wear and stretch, adjustment becomes necessary, belt tension can be increased by moving the idler pulley to the center hole in idler control arm. The PTO belt can be adjusted by loosening the three cap screws that hold PTO support casting to axle support casting. Raise or lower PTO support casting to proper adjustment.

### To Remove Drive Belt

The belt from engine to drive shaft can be replaced in the same manner as changing speed range (see page 7) but instead of moving belt to small groove, free it completely from pulley. Next, slide belt from opposite pulley and it is free.

### To Remove PTO Belt

To remove PTO drive belt it is necessary to first remove the belt from engine to drive shaft. Remove belt guide from power-take-off pulley, and with PTO disengaged, remove belt starting on the lower pulley.

### Generator-Starter Drive Belt Adjustment

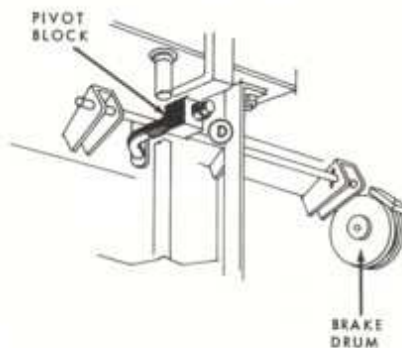
The generator-starter drive belt can be adjusted by loosening the cap screw on the adjustment bracket and moving the generator-starter. The belt is properly adjusted when it can be depressed approximately  $\frac{1}{4}$  inch under slight thumb pressure.

## Brake Adjustment (HUSKY 600)

The brake may require adjustment periodically due to wear. Adjust at two points (1) To adjust brake on transmission shaft (located under tractor frame in line with brake pedal) adjust by moving the two nuts on the top side of the pivot block. (2) To adjust brake on drum loosen brake adjusting nut on brake rod. Turn nuts at both points only one or two turns at a time until proper brake adjustment balance is obtained.

## Brake Adjustment (HUSKY-800 & 900)

The brake may require adjustment periodically due to wear. Adjust by moving the nuts (D) on both sides of the pivot block. Turn nuts only one or two turns at a time to prevent over-adjusting the brake. If brake is set too close there will not be enough free clutch pedal travel making it difficult to operate the tractor smoothly and shift properly.





#### 2-Position Seat

Durable, cushioned seat adds to driver's comfort. To adjust seat, remove 2 nuts from under tractor seat and reposition in holes provided. Tool box is conveniently located under seat.



#### FREE WHEELING

The pin located on the inside hub of right rear wheel will permit free wheeling when the tractor is to be pushed or towed. Pull pin out for "free wheeling" and push pin in for "drive". When the right rear wheel pin is in drive it also acts as a brake even when the gear shift lever is in neutral. On HUSKY 800 & 900 turn positive drive adjusting nut (on left rear wheel axle) counter-clockwise as far as it will go. DO NOT USE WRENCH



#### Rear Axle

After use the rear axle may develop end play which should be removed. Check approximately every 50 hours of operation and adjust if necessary.

#### ADJUSTMENT PROCEDURE:

1. Remove retaining ring and hand adjusting nut from left end of rear axle. (Step 1 for HUSKY 800 & 900.)
2. Remove cotter pin securing castle nut at end of left rear axle, tighten nut finger-tight (DO NOT USE WRENCH) and replace cotter pin.
3. Tighten nut on right rear axle in the same manner.

**IMPORTANT:** ALWAYS TIGHTEN NUT ON LEFT SIDE FIRST. NEVER TIGHTEN NUTS WITH A WRENCH AS THIS WILL CAUSE DAMAGE TO THE TRANSMISSION.

## Fast-Switch Attachment System



Your HUSKY Tractor has the fastest attachment switch system in the industry. No belts to adjust . . . no tools needed.

Slide universal joint over end of splined power-take-off shaft, aligning holes in joint and shaft and secure with cap screw and lock nut. Just slide attachment drive and PTO drive shaft universal joint together, slip pins into hitch points and connect attachment lift lever with pin and hitch point. The PTO (power-take-off) drive shaft is located under the front of the tractor frame and is connected to the engine by a drive belt. This assembly has a drive shaft which is splined at both ends so that front, center and rear power attachments can be coupled directly to it. Universal joints on the attachments are equipped with needle-bearings allowing you to raise or lower attachments (with lift lever) while the tractor is under full power.



**CAUTION:** Always remove universal joint from power-take-off shaft when attachments are removed from tractor. If the joint is not removed and the power-take-off is engaged, damage will result from whipping action of the free joint.



## Attachments



### 32-INCH ROTARY MOWER

A Balens-designed 3-blade center-mount mower with side discharge gives you safe grass cutting. Special baffles below the base increase safety and quickly rid the mower of grass clippings. Heavy gauge steel base parallelogram lift raises and lowers mower in a level position for smooth uniform cut at all times.

### 38-INCH ROTARY MOWER HUSKY 800 & 900

A center-mount, safety-designed 3-blade mower with a 38-inch cut. Also designed with side discharge and special baffling for quick removal of grass clippings. Has parallelogram lift for uniform cutting levels.



### 30-INCH FRONT REEL MOWER

A 5-bladed, chain-driven reel mower with caster wheels for better operation. Heavy-duty construction and a full 30-inch cut makes it one of the finest and most dependable on the market.



### 22-INCH ROTARY TILLER

This is a ruggedly-constructed all-purpose tiller with plenty of power for deep tilling, soil preparation and general garden maintenance. Finely chops and blends weeds, grass and stalks into any soil. For later cultivating, an 8-inch tine and hood extension is available for a maximum 30-inch cut to cover tractor wheel tracks.



#### UTILITY CART

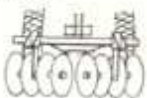
A 2-wheel utility cart with all-steel body construction, pneumatic tire and wheel assembly. Cart is 41-1/2 in. long, 26 in. wide, 12 in. deep, with a capacity of 7-1/2 cubic feet or 1000 lbs. Attaches directly to the tractor hitch.



3-gang trailing reel mower with 57-inch cut



8-inch Mold-Board Plow



8-Blade Disc Harrow



32-inch Lawn Roller



Seeder-Fertilizer-Scarifier



Heavy-duty Expanding Cultivator

## Attachments



#### 32-INCH SNOW CASTER

Single-unit rotor brings snow from the outer edges to the center before casting it out discharge chute. While unit is in operation the operator can raise or lower unit with lift lever or change direction of discharge chute from the driver's seat. Rotor speed is coordinated with special low forward speed of tractor. Casts snow at rates up to 1600 pounds per minute. Adjustable runners can be raised or lowered to adapt to surface being cleared.

#### 36" SNOW CASTER

For Model 900 to accommodate wide tire tread.



#### 42-INCH GRADER BLADE, SNOW PLOW

A 5-position, all-steel, heavy-duty scraper blade for grading and leveling, plowing snow, refuse removal and many other uses. Special, spring-loaded, automatic trip mechanism permits blade to by-pass solid obstruction before springing back into position.

# Minor Trouble Shooting Guide

If tractor acts in following manner	Check for possible causes									
	Faulty ignition*	Faulty spark plug	Empty fuel tank	Battery	Carburetor	Idle adjustment	Oil	Air cleaner	Choke	See your Bolens Dealer
See page:	•	10	10	10	•	•	12	10	9	
Engine will turn over but won't start	•	•	•		•				•	•
Engine will not turn over	•									•
Starts only after repeated tries	•	•								•
Stalls in a few seconds					•	•				•
Stalls when hot						•				•
Idles rough						•		•		•
Engine overheats							•			•

\* See enclosed Engine Manual or your Bolens Dealer.

## Storing your Husky Tractor

Always keep your HUSKY tractor in a dry, protected place when not in use to prolong its usefulness and appearance. With year 'round use, it is not necessary to "store" the tractor but when it is not to be used for some time, it should be prepared for storage in the following manner:

1. Completely clean all accumulated dirt or trash from all parts of tractor.
2. Wipe oil or a rust preventative on any parts that may be damaged by rust.
3. Drain gas tank and carburetor.
4. Remove spark plug and put a small amount of oil (S.A.E. 30) in cylinder head.
5. Without starting the tractor, crank the engine to fully lubricate the cylinder walls, valve seats and valve stems.
6. Keep tractor covered.

# Specifications

HUSKY 800 & 900		HUSKY 600
ENGINE	Wisconsin -	Briggs & Stratton
Type	4 cycle - single cylinder - air cooled	4 cycle - single cylinder - air cooled
Fuel Capacity	5 qts.	4 qts.
Oil Capacity	2 pts.	2-3/4 pts.
Air Cleaner	Oil Bath	Oil Bath
DRIVE	Geared transmission and controlled differential (transaxle)	Geared transmission and differential (transaxle)
SPEED	3 forward and 1 reverse in two ranges for a total of 6 forward and 2 reverse. Lowest Speed: less than 3/4 mph. Highest Speed: 6 mph.	3 forward and 1 reverse in two ranges for a total of 6 forward and 2 reverse. Lowest Speed: less than 3/4 mph. Highest Speed: 6 mph.
POWER TO ATTACHMENTS	Farm tractor type (PTO) direct drive with universal joints and splined shaft.	Farm tractor type (PTO) direct drive with universal joints and splined shaft.
TIRES	800 - Front 4 x 8; Rear 6 x 12 with lawn and garden tread. 900 - Front 16 x 6:50-8 - Rear 8 x 12	Front 4 x 8; Rear 6 x 12 with lawn and garden tread.
HEIGHT	40 inches	40 inches
WIDTH	30 inches (800) 34 inches (900)	30 inches
LENGTH	63 inches	60 inches
WHEELBASE	43 inches	40 inches
TURNING RADIUS	42 inches (800) 40 inches (900)	36 inches
GROUND CLEARANCE	7 inches	7 inches
SHIPPING WEIGHT	Model 800 595 lbs. - 900 620 lbs.	490 lbs. (Model 181, 530 lbs.)
STANDARD EQUIPMENT	PTO assembly, Controlled differential, two speed ranges, tool box, fenders and seat cushion.	PTO assembly, two speed ranges, tool box, fenders and seat cushion.
Location of Model and Serial No.	TRACTOR	On tractor frame in front of seat.
	ENGINE	Wisconsin Engine, top front of engine.
		Briggs & Stratton, top back of engine.

## Warranty

Bolens equipment is carefully engineered to give efficient and trouble free performance if properly operated and maintained. To help assure delivery of equipment in proper operating condition, we have obligated our dealers to completely assemble and service the tractor before delivery and thoroughly explain its operation to you. To take advantage of the owner's warranty issued with each tractor, you must fill out and return the *Warranty Card* to Bolens Division. With the warranty in effect, the Bolens dealer is authorized to repair or replace any parts which fail due to defective material or workmanship during the warranty period. However, all repair work must be performed by an authorized Bolens dealer or the warranty is void. The engine, battery and starter-generator are warranted separately by the manufacturers of each component. Service can be obtained through your Bolens dealer or their own identified service shops.