# Trak-Star® RallBoss \*\*Trak-Star\*\*\* \*\*Trak-Star\*\* \*\*Trak-Star\*\*

## **OPERATOR'S MANUAL**



PORTABLE 4-STROKE RAIL DRILL --- MANUAL FEED 70 LB. A.S.C.E. TO 155 LB. P.S.

## TRAK-STAR® Portable Gas Rail Drill Model RB27

## Welcome to Trak-Star

Congratulations on your purchase of the Trak-Star Portable Gas Rail Drill. Your model is designed to produce superior holes quickly and efficiently. Through constant innovation and development, Trak-Star is committed to provide you with hole-producing tools and products that lead the industrial world.

Before attempting to operate your new Rail Drill, please read all instructions first. These include the Operators Manual and warning Label on unit itself. With proper use, care, and maintenance, your model will provide you with years of effective hole drilling performance. Once again, thank you for selecting our product and welcome to Trak-Star.

## **Unpacking Your New Rail Drill**

- Open shipping carton and remove the literature and hardware packages.
- Read and Follow All Instructions before attempting to operate your new Rail Drill.
- Complete and mail the Product Registration Card <u>NOW</u>. It is important that Hougen Manufacturing, Inc., have a record of product ownership.
- 4. Open all hardware packages and check contents.

10565 Hex wrench 1/8"

13013 Hex wrench 5/32"

10570 (2) Knobs

03522 Shaft

03635 Pilot

27019 Feed Handle Assy

01592 Coolant Bottle

27091 Oil

## **WARNING!**

OIL MUST BE ADDED TO THE ENGINE BEFORE STARTING. FAILURE TO DO SO WILL RESULT IN EN-GINE DAMAGE WHICH IS NOT COVERED UNDER WARRANTY.

- 5. Lift Rail Drill out of shipping carton using center carrying handle and rear support handle.
- Attach the large feed handle onto the drill using the enclosed 5/32" hex wrench.
- Attach Clamp Handle using the enclosed 1/8" hex wrench.
- 8. ADD 8 OZ OF OIL TO THE MOTOR.
- Your new Rail Drill was factory adjusted prior to shipping. Check to make sure that all screws, motor hold-down screws, drill housing and shoe mounting screws are snug and have not vibrated loose in transit.
- Hookup Coolant Bottle / Hose Assembly (01592).
   Connect the quick-disconnect hose fitting to the Rail Drill
- Reread Safety Warnings listed in this Operator's Manual and on the drill unit to avoid injury. Follow operating procedures.

Your new Rail Drill is equipped with a twist arbor bore to accept TRAK-STAR Twister Bits. Order cutters separately. Install pilot thru cutter before attaching cutter to arbor.

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## 🕦 Important Safety Instructions 🥂

#### 1. Read all Instructions

#### 2. Keep Work area clean

Cluttered area and benches invite injuries. Keep dirt and chips from under Twister Bit area and drill shoe.

#### 3. Consider Work Area Environment.

Keep work area well lit.

#### 4. Keep Children Away

Do not let visitors contact tool.

#### 5. Store Idle Tools

When not in use, tools should be stored in a dry, and a high or locked-up place -- out of reach of children.

#### 6. Do Not Force Tool

It will do the job better and faster at the rate for which it was intended.

#### 7. Use Right Tool

Do not force small tool or attachment to do the job of a heavy duty tool.

Do not use tool for purpose not intended -- for example do not use a circular saw for cutting tree limbs or logs.

#### 8. Dress Properly

Do not wear loose clothing or jewelry. They might entangle with spinning chips or get caught in moving parts. Rubber gloves and nonskid footwear are recommended when working outdoors. Wear sturdy leather gloves when working indoors.

#### 9. Always Wear Safety Glasses or Goggles.

## 10. Do Not Overreach

Keep proper footing and balance at all time.

#### 11. Secure Work

Clamp work securely using appropriate shoe size and shape.

Tighten Clamp by using two hands with handle placed in central position and tighten securely.

#### 12. Maintain Tools With Care

Keep tools sharp and clean for better and safer performance.

Do not use dull or broken Twister cutters. Follow instructions for lubricating and changing accessories. Inspect gas line periodically and, if damaged, have repaired by authorized service facility. Keep handles dry, clean, and free from oil and grease.

#### 13. Disconnect Tools

Disconnect spark plug wire from spark plug when not in use, before servicing, and when changing Twister Bits or accessories.

### 14. Remove Adjusting Keys and Wrenches

Form a habit of checking to see that keys and wrenches are removed from tool before Starting drill unit

#### 15 Stay Alert

Watch what you are doing. Use common sense. Do Not operate tool when you are tired.

#### 16. Check Damaged Parts

Before further use of drill, a part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function.

Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation

A part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual.

(See last page for authorized Service Centers)

#### 17. Additional Safety Precautions

- Quill and cutter should never be used as a handhold.
- Keep hands and clothing away from all moving parts.
- Do not use Twister Bits where ejected slug might cause injury (slug ejected at end of cut).
- Be sure that all safety devices are properly adjusted and in use. Also, adhere to all operating instructions.
- Do not attach Rail Drill to live 3rd rail track.

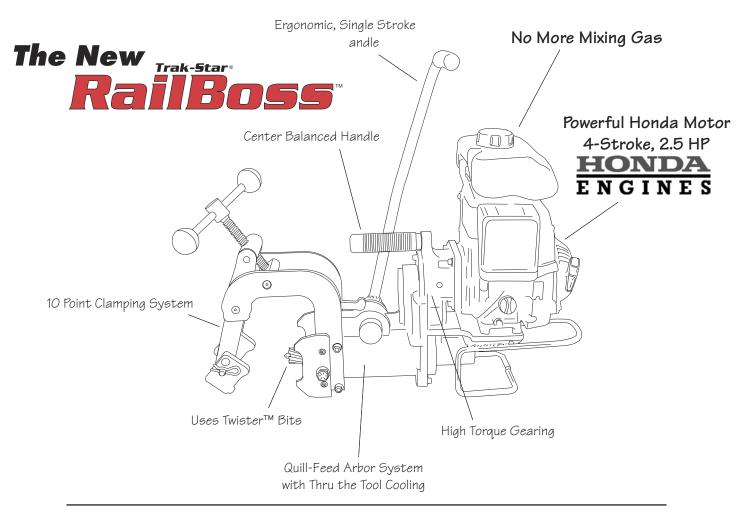
## 18. Non-Conforming Cutting Tools

The TRAK-STAR Model RB27 is designed to use TRAK-STAR Twister Bits only. The use of drilling tools having different shank styles is not recommended as they may not tighten securely in the TRAK-STAR arbor with risk of accident or injury.

#### 19. Save These Instructions

## 20. Read all instructions concerning the motor in your HONDA Engine Operator's manual.

## The World's Most Reliable 4-Stroke Rail Drill



**Honda Engine Instructions** 

PLEASE READ THE HONDA ENGINE OPERATOR'S MANUAL. INSTRUCTIONS ON THE OPERATION, SAFETY, AND MAINTENANCE PROCEDURES ARE CONTAINED IN A SEPARATE MANUAL.

**IMPORTANT:** Before starting the machine, it is imperative that the operator know and understand instructions for safe operation.

Add engine oil to motor and use regular unleaded gasoline only.

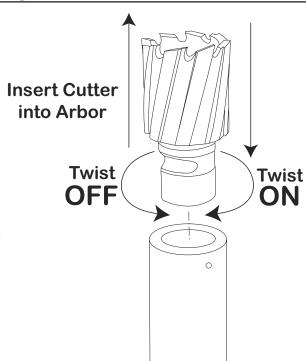
Ignition switch located on engine---stops motor, spindle, and cutter rotation. See diagram at left.

GAS MUST BE SHUT OFF BEFORE TRANSPORTING DRILL.

"ON" / "OFF" Switch

## Installing / Replacing Twister™ Bit

- Be sure engine is stopped and turned off. Turn off coolant at shut-off. The spring seat system located within arbor was not designed to be 100% leak proof.
- Position arbor so the cutter area is easily accessible.
   Do not depress pilot pin during procedure to release seal. Doing so will result in releasing pressurized contents of arbor cavity and coolant loss. Some loss, however, is normal due to cavity between cutter shank and spring seat.
- 3. Insert pilot in shank end of Twister Bit.
- 4. Insert the Twister Bit until long flat on cutter shank is aligned with roll pin inside arbor. Twist cutter clockwise (do not depress pilot in case of cutter replacement for reason noted in #2). The cutter is automatically held into place.



## **TRAK-STAR Twister Disposable Rail Cutters**

Made from Premium H.S.S.

- · Gold Coating for All Around Drilling
- Black Coating for Improved Performance in New Harder Rail.

TRAK-STAR Rail Drills are designed to use Twister Bits, and to achieve maximum efficiency from your unit, we recommend that no substitutes be used.

- \*\* Twister Bits are economical and disposable --- there is no need to resharpen --- however it is possible. Tools can be sharpened 2 to 3 times. Send cutters to Trak-Star to the attention of the Resharpening Department.
- \*\* Twister Rail Bits have been shown to drill holes in rails up to 4X faster than twist drills or spade drills, and they produce clean, round, burr-free holes without the need to chamfer.
- \*\* Multiple cutting edge design, along with proper coolant flow, produces a cool cut raising the rail temperature in the hole no more than 35°F above ambient temperature. This prevents work hardening, stress cracking, service failures, and repeated repairs.

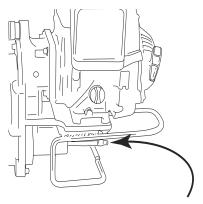
Cutter Size, inches	Decimal Equivalent	Gold - TiN Coated Part Number	Black - TiAIN Coated Part Number
7/8	.08750	15228	15328
15/16	.09375	15230	15330
1	1.0000	15232	15332
1-1/16	1.0625	15234	15334
1-1/8	1.1250	15236	15336
1-3/16	1.1875	15238	15338
1-1/4	1.2500	15240	15340
1-5/16	1.3125	15242	15342
1-3/8	1.3750	15244	15344
1-7/16	1.4375	15246	15346
1-1/2	1.5000	15248	15348
Р	ilot for Twister	Bits	03635

## **Drill & Pressurized Coolant System**

- 1. Install correct shoes for rail type being drilled.
- Install correct size Twister Bit with pilot and secure to drill arbor. See Cutter Installation procedure.
- Fill coolant bottle with TRAK-STAR cutting fluid ( a water soluble and biodegradable product) Conventional fill access is achieved by removing pump handle.
   Caution: Contents under pressure. Partially open to slowly release pressure before removing.
- Attach coolant bottle quick connect hose fitting to drill on the backside of drill under motor.
- 5. Pressurize coolant bottle (approximately 20 pumps)
- 6. Open coolant shut off valve.
- Depress pilot pin approximately 1/4" and watch for coolant flow from the end of the cutter. NOTE - Coolant is under pressure -- stay out of path of spray. If coolant does not flow, rotate valve further to open or unclog coolant system.



01569 On/Off Valve 01570 Quick Connect Fitting 01592 Coolant Bottle and Hose Assy



Coolant Quick Connect Hose and Nipple



## RotaMagic™ Concentrate Cutting Fluid

A good flow of cutting fluid to the tool is important. It cools and lubricates the cutting edge, helps evacuate the chips, keeps the slug from expanding, and helps eject the slug. Various mineral and sulphur base oils are quite popular, however, water base solutions have better cooling qualities.

Listed is our own recommended Concentrated Cutting Fluid for Twister Bits and similar cutting tools. It is a water soluble, biodegradable product. This cutting fluid contains no ingredients that are on the U.S. Government Hazardous Materials List. It is a super concentrated form that will require a 10:1 mixture of water.

Order Number	Size Description
11742-4	4 Gallons**
11743	5 Gallons+

<sup>\*\*</sup> MEASURED AMOUNT OF CONCENTRATE. COMES IN 4-1 GALLON CONTAINERS AND MAKES 44 GALLONS OF USABLE CUTTING FLUID

<sup>+</sup> COMES IN 5-GALLON CONTAINER, FULL, WILL MAKE 55 GALLONS OF USABLE CUTTING FLUID

## **CLAMPING PROCEDURES**

## WARNING: IMPROPER CLAMPING WILL CAUSE PREMATURE CUTTER FAILURE

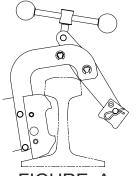
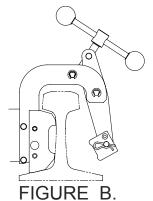


FIGURE A.

## **STEP #1:**

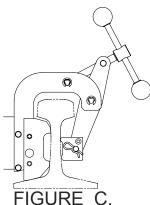
WITH CLAMP IN OPEN POSITION, REST UNIT ON RAIL BASE. BOTTOM OF SHOES SHOULD CONTACT TAPER ON RAIL BASE. (SEE FIG. A)

\*\* PERFORMANCE TIP: CLOSE CLAMP UNTIL CLAMP PAD CON-TACTS WEB OF RAIL PRIOR TO STEP #2.



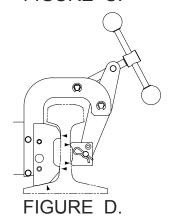
**STEP #2:** 

RAISE REAR OF RAIL DRILL TO LOCATE SHOES IN PROPER POSITION. (SEE FIGURE B)



## **STEP #3:**

WHILE MAINTAINING CONTACT BETWEEN SHOES AND RAIL, TIGHTEN CLAMP. (SEE FIG. C)



## **STEP #4:**

WHEN UNIT IS FIRMLY CLAMPED, CHECK FOR PROPER SHOE AND PAD CONTACT ON BOTH SIDES (SEE FIG. D)

\* When properly clamped to the rail there will be a small gap between the top of the shoe and the rail.

## **Positioning of Optional Hole Location Template**

Template is positioned on head of rail with tapered tip flush with end of rail and side locking screws fastened to rail head. Notches in template give precise location of hole centerlines to be drilled.

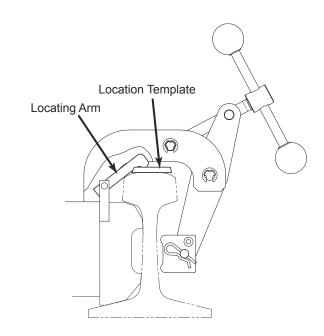
The rail clamp assembly has a locating arm which rests in the template notches. The locating arm is adjustable to accommodate the full range of rail sizes.

To use the locating arm, raise the drill unit over the rail with the template attached and gently rest drill down until shoes make contact with the rail. Flip the arm to make contact with the template. Slowly slide drill across the template until the arm falls into notch.

The arm must contact the sides of the matching notch. Following the Clamping Instructions, clamp unit onto rail. When the hole is completed, raise the arm by flipping the arm back toward the body of the drill. Before drilling next hole remove chips around cutter. Then move the drill sideways, ensuring the arm is clear of the notch, and flip arm down. Slide the drill sideways until arm falls in the next notch, and repeat the procedure as necessary.

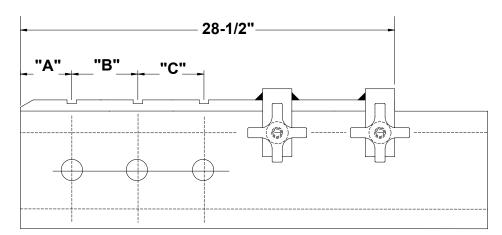
Note: The locating arm must be flipped back, resting on the body of the drill before putting the drill unit on the rail. Failure to do so can result in damage to the hole locating arm system.

Hole location templates are offered as optional equipment. Four of these templates are provided with established hole spacings. The 40570 template is produced to customer specified hole spacing. See chart for the template to match your application.



Template Part No.	Hole Spacing			
40570	Customer Specified			
40701	3-1/2" X 6" X 6"			
40702	2-11/16" X 5-1/2" X 5-1/2"			
40703	2-1/2" X 5" x 5"			
40704	2-1/2" X 6-1/2" X 6-1/2"			
40706	2- 23/32" x 5-1/2" x 5-1/2"			

## **Custom Template Spacing**



Specify "A", "B", "C" when ordering custom template

## **Important Notice**

- 1. Make sure cutter is properly installed.
- 2. The #1 cause of premature cutter failure is improper clamping. (see page 7 for clamping procedures.)
- 3. The # 2 cause of premature cutter failure is improper feed, usually feeding too slow.
- 4. Always use caution when contacting the rail with the cutting tool. Allow the cutter to completely enter the rail before applying full feed pressure.
- 5. GAS MUST BE SHUT OFF BEFORE TRANSPORTING DRILL.

## **Operating Instructions**

- NEVER RUN ENGINE INDOORS OR IN ENCLOSED, POORLY VENTILATED AREAS. ENGINE EXHAUST CONTAINS CARBON MONOXIDE, AN ODORLESS AND DEADLY GAS.
- KEEP HANDS, FEET, HAIR, AND LOOSE CLOTHING AWAY FROM ANY MOVING PARTS ON ENGINE AND EQUIPMENT.
- WARNING TEMPERATURE OF MUFFLER AND NEAR BY AREAS MAY EXCEED 150°F (65°C). AVOID THESE AREAS.
  - 1. Make sure workpiece, cutter and shoe surfaces are free of chips, etc.
  - 2. Place locator template on rail head.
  - 3. Align drill on locator with the Hole Location Template.
  - 4. Clamp drill to rail and insure proper 10 point contact.
  - 5. Turn on coolant (pump to pressurize system).
  - Move choke lever to "FULL CHOKE". If restarting a warm engine after a short shutdown, move choke lever to "NO CHOKE".
  - 7. Turn motor on/off switch to "ON" position.
  - 8. Move throttle to idle position.
  - Grasp starter handle and pull rope out, slowly, until it
    - meets resistance. Let rope rewind slowly. Then pull rope with a rapid full arm stroke. Let rope return to starter slowly.
  - 10. Repeat step #9 until engine fires.
  - 11. Move throttle to run position.

- 12. Manually feed cutter very gently to start cutting.
- 13. Once all teeth are cutting aggressively, feed tool through workpiece at an even rate. Do not overload unit to induce an arbor stalling situation. Certain rail compositions workharden easily. Do not pause during cut nor release feed pressure if changing hand grip on feed handle. This will result in premature cutter wear and drilling problems while in the cut.
- 14. Move feed handle to retract arbor and cutter. Slug should eject from spring loaded pilot pin pressure.
- 15. Move throttle to idle position.
- 16. At the end of the cut, move ignition switch on engine to "STOP" or "OFF" position.
- 17. Loosen clamp and remove drill to clean chips from around cutter. Drill cycle is complete and you are ready to go on to the next hole. Shutting off coolant after use is suggested, if use is intermittent.
  - If Slug Has Not Fallen Free, disconnect spark plug wire from spark plug and shut off coolant supply. Use a screwdriver to carefully flip slug by inserting it between slug flange and cutter gullet. It generally will remove easily while discharging a squirt of coolant. Avoid prying with force, damage to the cutter and cutting edge may result.
  - WHEN EQUIPMENT WILL NOT BE USED FOR EXTENDED PERIODS, DISCONNECT SPARK PLUG WIRE FROM SPARK PLUG AND KEEP IT AWAY FROM SPARK PLUG.

NEVER STORE ENGINE WITH FUEL IN TANK INDOORS OR IN ENCLOSED, POORLY VENTILATED AREAS, WHERE FUEL FUMES MAY REACH AN OPEN FLAME, SPARK, OR PILOT LIGHT AS ON A FURNACE, WATER HEATER, CLOTHES DRYER OR OTHER GAS APPLIANCE.

## Maintenance -- Engine/Drill

#### **AIR CLEANER:**

IMPORTANT: NEVER RUN ENGINE WITHOUT COMPLETE AIR CLEANER INSTALLED ON ENGINE

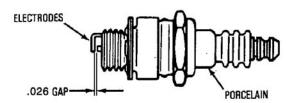
1. To remove and install filter:

Press tabs on the top of the air cleaner, and remove the cover. Remove and inspect the foam filter for discoloration or dirt accumulation. If either is present, service per below instructions. Clean inside of cover and body thoroughly.

2. To service filter

Foam Filter: Clean and re-oil every three months or every 25 operating hours. Clean and re-oil daily if use in extremely dusty conditions. Wash in water and detergent solution and squeeze (don't twist) until all dirt is removed. Rinse thoroughly in clear water. Wrap in a clean cloth and squeeze (don't twist) until completely dry. Saturate with motor oil and squeeze to distribute oil and remove excess oil.

3. Reassemble air cleaner.



### **SPARK PLUG:**

- 1. Check spark plug yearly or every 100 operating hours.
- 2. Clean around spark plug. Remove and inspect spark plug.
- Replace spark plug if electrodes are pitted, burned, or porcelain is cracked. Use NGK CR5HSB or equivalent.
- Check electrode gap with a wire feeler gauge and set gap at .026" if necessary.
- 5. Install spark plug and tighten securely.

## **Maintenance -- Drill**

The RailBoss requires minimal maintenance to keep drill in top working condition.

- Every four to six months or as needed apply a light coat of grease to the quill and arbor assembly and the large screw that tightens the handle.
- · Keep drill clean.
- Maintain motor as outlined in your Honda motor operator's manual.

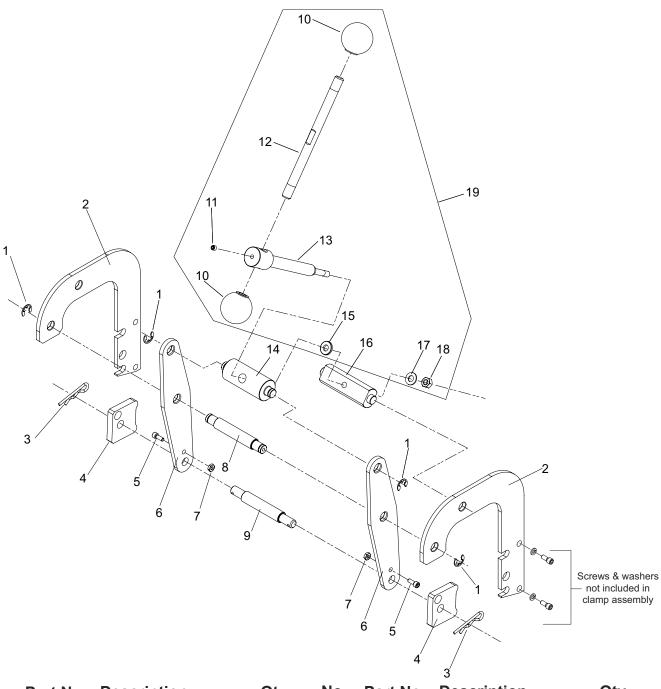
#### **MUFFLER AND CYLINDER EXHAUST PORTS**

The muffler and cylinder exhaust ports require cleaning after every 100 hours of operation. For this maintenance procedure, we recommend that you take your engine to a Authorized TRAK-STAR Service Center or your Honda Registered Service Dealer.

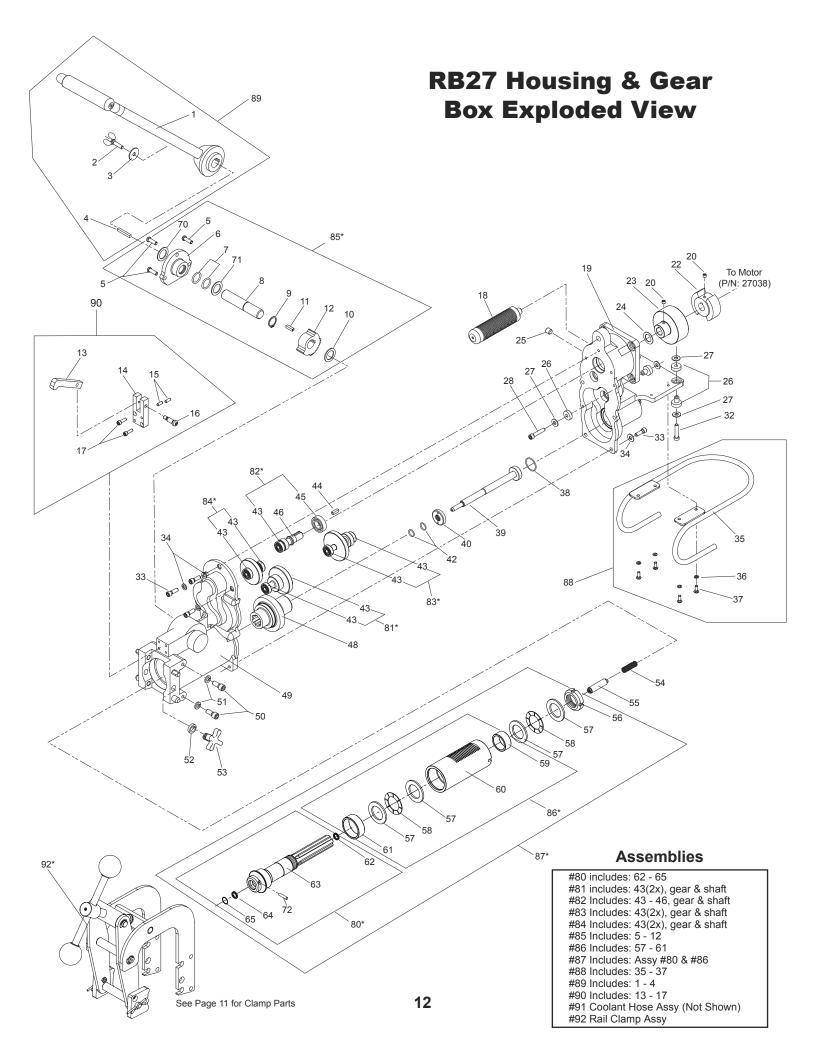
#### **COOLING SYSTEM:**

Important: Frequently remove debris from cooling fins, air intake screen, and levers and linkage. This will help ensure adequate cooling and correct engine speed.

## Clamp Exploded View (P/N: 27020)



No.	Part No.	Description	Qty.	No.	Part No.	Description	Qty.
1	27066	Retaining Clip Set	1	12	03522	Clamp Turn Handle	1
2	27021	Primary Clamp Arm	2	13	27027	Clamp Feed Screw	1
3	03501	Hitch Pin	2	14	27026	Bushing	1
4	27062	Clamp Pad	2	15	04782	Flat Washer	1
5	90098	Screw #10-24 x 3/4"	2	16	27025	Bushing	1
6	27022	Secondary Clamp Arm	2	17	40074	Flat Washer 5/16"	1
7	10662	Lock Nut - #10-24	2	18	03563	Hex Nut 5/16-18	1
8	27024	Pin	1	19	27080	Clamp Handle Assy	1
9	27023	Pin	1			•	
10	04532	Knob	2				
11	02470	Set Screw 1/4-28 x 3/8"	1				



## **Housing & Gear Box Parts**

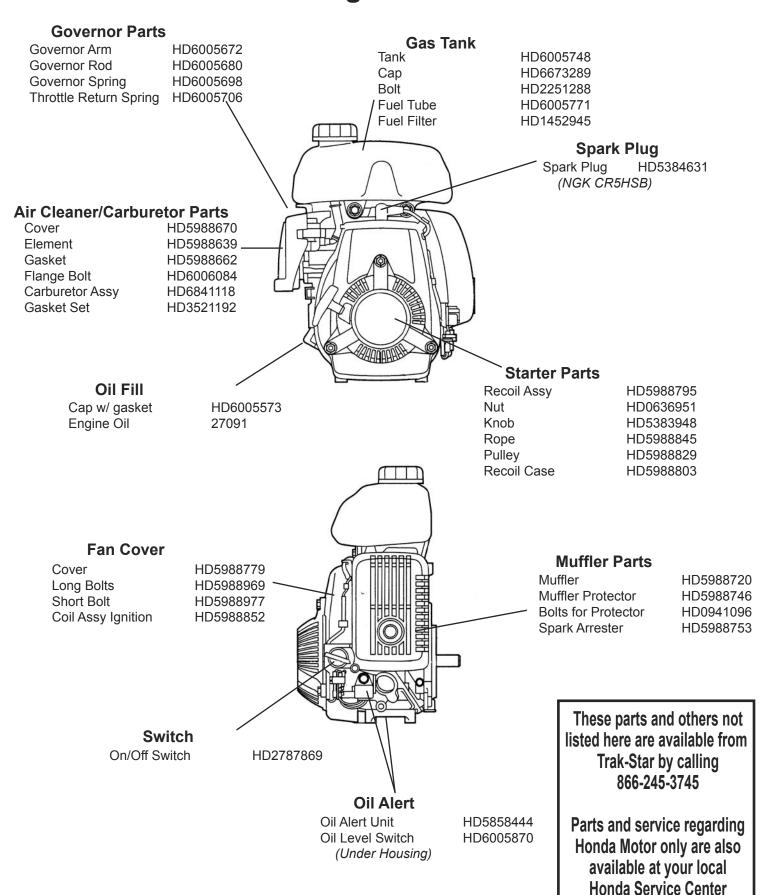
No.	Part No.	Description	Qty.	No.	Part No.	Description
1	27019	FEED HANDLE ASSY	1	40*	27016	COOLANT SEAL
2	04919	THUMB SCREW	1	42	04807	O-RING
3	04809	WASHER FLAT	1	43	24100	<b>BALL BEARING</b>
4	27059	KEY	1	44	27057	KEY
5	04815	SCREW	3	45	04804	<b>BALL BEARING</b>
6	27046	FEED GEAR BEARING	1	46	27014	<b>ENGINE DRIVE</b>
7	04794	O RING	1	48	27015	DRIVE GEAR/SF
8	27047	FEED GEAR SHAFT	1	49	27000	HOUSING ASSY
9	24160	RET RING	1	50	40558	SCR-SHC 5/16
10	04793	FLAT WASHER	1	51	40107	WASHER 5/16-H
11	27048	KEY	2	52	40110	WASHER LOCK
12	27051	FEED GEAR	1	53	04918	4 POINT HANDL
13	27029	LOCATING ARM	1	54	04787	SPRING
14	27028	BRACKET LOCATOR	1	55	27033	PILOT PIN
15	01153	PIN DOWEL 3/16 X 1/2	1	56	27031	BRG-NUT
16	04859	SCREW	1	57	04791	THRUST WASH
17	40038	SCR-SHC 10-32	1	58	04788	THRUST BEARI
18	27060	CARRYING HANDLE	1	59	04790	NEEDLE BEARI
19	27005	MOTOR HOUSING	1	60	27034	QUILL
20	11050	SCR-SOC SET 1/4-28	1	61	40232	NEEDLE BRG 4
22	27064	CLUTCH ROTOR	1	62	02363	O RING
23	27063	CLUTCH HOUSING	1	63	27032	ARBOR
24	04838	WASHER-SHIM	1	64	04736	LIP SEAL
25	02071	PIPE PLUG	1	65	04737	RET RING
26	04810	MOTOR MOUNT	1	70	05196	TEFLON WASH
27	90027	WASHER FLT 1/4 ID	1	71	24088	FLAT WASHER
28	01121	SCR-SHC 1/4-28	1	72	04792	PIN
32	75313	SCR-SHC M6	1	\ * N	IUST ALSO PU	JRCHASE #42
33	10624	SCR-SHC 1/4-20	1			
34	90028	WSR-HEL LOCK 1/4"	1			
35	27054	SUPPORT HANDLE	1			
36	50038	WASHER-HELI	1			
37	90077	SCR-BHC 10-32	4			
38	04836	O RING 1" ID	1			
39	27035	EJECTOR PIN ASSY	1			

No.	Part No.	Description	Qty.
40*	27016	COOLANT SEAL	1
42	04807	O-RING	2
43	24100	BALL BEARING	1
44	27057	KEY	1
45	04804	BALL BEARING	1
46	27014	ENGINE DRIVE SHAFT	1
48	27015	DRIVE GEAR/SPINDLE	1
49	27000	HOUSING ASSY	1
50	40558	SCR-SHC 5/16	4
51	40107	WASHER 5/16-HELI	4
52	40110	WASHER LOCK 1/2	2
53	04918	4 POINT HANDLE	2
54	04787	SPRING	1
55	27033	PILOT PIN	1
56	27031	BRG-NUT	1
57	04791	THRUST WASHER	4
58	04788	THRUST BEARING	2
59	04790	NEEDLE BEARING	1
60	27034	QUILL	1
61	40232	NEEDLE BRG 40MM	1
62	02363	O RING	1
63	27032	ARBOR	1
64	04736	LIP SEAL	1
65	04737	RET RING	1
70	05196	TEFLON WASHER	1
71	24088	FLAT WASHER	1
72	04792	PIN	1
* 1/	ILIST AL SO PI	IRCHASE #42	

## **Assemblies**

	27038	2.5 HP HONDA MOTOR
80	27040	ARBOR ASSEMBLY
81	27041	GEAR ASSY
82	27044	DRIVE GEAR ASSY
83	27042	GEAR ASSY
84	27043	GEAR ASSY
85	27045	FEED GEAR ASSY
86	27050	QUILL ASSEMBLY
87	27030	ARBOR & QUILL ASSY
88	27081	SUPPORT BRACKET ASSY
89	27019	FEED HANDLE ASSY
90	27082	LOCATING PIN ASSY
91	27065	COOLANT HOSE ASSY
92	27020	CLAMP ASSY

## **Engine Parts**



## Rail & Shoe Data

Railway Association or System	Tee Rail Section (lb.)	Section Designation		on	Shoe Part No.		
	70	7040	70	AS	701	01906	
	75	7540	75	AS	753	01907	
ASCE - American Society	80	8040	80	AS	800	01908	
of Civil Engineers	85	8540	85	AS	851	01909	
	90	9040	90	AS		01910	
	100	10040	100	AS		01911	
	Type "A" - High Rail for High Speeds						
	90	9020	90	RA	902	01927	
ARA - American	100	10020	100	RA	1003	01928	
Railway Association	Type "B" - Lo	wer Rail	for Heav	y Loads	@ Slow	er Speeds	
	90	9030	90	RB	905	01908	
	100	10030	100	RB	1002	01910	
	100	10025	100	RE	10025	01894	
	110	11025	110	RE	1100	01895	
	112	11228	112	RE	1121	01896	
	115/119	11525	115	RE	1150	01897	
		11937	119	RE	1190		
AREA - American Railway	130	13025	130	RE	1300	01898	
Engineering Association	131	13128	131	RE	1311	01899	
		13228	132	RE	1321		
	132/136/141	13622	136	RE	13637	01902	
		-	141				
	133	13331	133	RE	1330	01901	
	140		140	RE		01903	
CSX	122		122	СВ		01918	
UP (former C & NW)	100	10035	100	DM	10035	01926	
	85	8531	85	PS		01912	
DC Dannoulvania Cuntam	100	10031	100	PS		01913	
PS - Pennsylvania System	130	13031	130	PS		01914	
	155	15531	155	PH		01919	
NYC (Dudley) - New York Central &	105	10524	105	DY		01915	
Hudson River Railroad	127	12723	127	DY		01916	
PRR - Pennsylvania Railroad	85	8533	85	PR		01917	

## Commercial / Industrial Limited Warranty

Hougen Manufacturing, Incorporated warrants its Trak-Star Rail Drills, Portable Magnetic Drills, Electro-hydraulic Hole Punchers for one (1) year and other products for ninety (90) days from date of purchase against defects due to faulty material or workmanship and will repair or replace (at its option) without charge on any items returned. This warranty is void if the item has been damaged by accident or unreasonable use, neglect, improper service, or other causes not arising out of defects in material or workmanship. No other expressed warranty is given or authorized. Hougen Manufacturing, Inc., disclaims any implied warranty of MERCHANT-ABILITY or FITNESS for any period beyond the expressed warranty and shall not be liable for incidental or consequential damages. Some states do not allow exclusions of incidental or consequential damages or limitation on how long an implied warranty lasts and, if the law of such a state governs your purchase, the above exclusion and limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

To obtain warranty service, return the item(s), transportation prepaid, to your nearest Factory Authorized Repair Center or to Hougen Manufacturing, Inc. 3001 Hougen Drive, Swartz Creek, Michigan 48473.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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### **FACTORY AUTHORIZED WARRANTY SERVICE CENTERS**

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