MANUEL D'UTILISATION ET D'ENTRETIEN

LES TALOCHEUSES

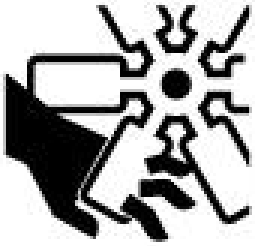
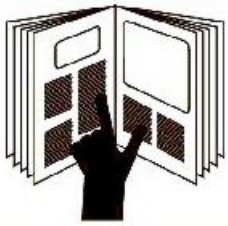
MODELES
B436 ET B446

NOTA: INDIQUEZ LE MODELE ET LE NUMERO DE SERIE POUR COMMANDER LES PIECES D'ETACHEES.

PUISSANCE - EFFICACITE - FAIBILITE

BARTELL MORRISON INC.
375 ANNAGEM BLVD, MISSISSAUGA, ONTARIO, CANADA, L5T 3A7, 905-364-4200 FAX 905-364-4201

Doc. #: OI-B09001Fr
Created: 07/04
Rev.: 01
Revised: 01/11

MEASURES DE SÉCURITÉ	
	**⚠ DANGER** **RISQUE D'EXPLOSION** N'actionnez jamais la machine dans une atmosphère explosive, près des matériaux combustibles ou où la ventilation pas les vapeurs claires d'échappement.
	**AVERTISSEMENT** **RISQUE DE BRÛLURE** Ne touchez jamais le moteur ou le silencieux quand le moteur fonctionne ou peu de temps après lui est éteint. Les brûlures sérieuses peuvent se produire.
	**⚠ ATTENTION** **RISQUE TOURNANT** Ne placez jamais les mains ou les pieds à l'intérieur des gardes de sûreté. Les dommages sérieux résulteront du contact avec les lames tournantes.
	**⚠ ATTENTION** **PIÈCES MOBILES** Avant de mettre en marche la machine, assurez toutes les gardes et les dispositifs de sécurité sont en place et fonctionnant correctement.
	**⚠ ATTENTION** **LISEZ LE MANUEL** Lisez et comprenez le manuel avant d'utiliser cette machine. Le manque de suivre des instructions a pu avoir comme des dommages sérieux ou la mort.

MANUEL D'UTILISATION ET D'ENTRETIEN LES TALOCHEUSES

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QUALITY ASSURANCE / MACHINE BREAK IN

The Bartell Walk-Behind Power Trowel is the product of extensive engineering development designed to give long life and unmatched performance. The Walk-Behind Power Trowels are shipped partially assemble, and only require filling with fuel and a brief check of lubricant levels in preparation for operation.

You can help ensure that your Power Trowel will perform at top levels by observing a simple routing on first use. Consider that your new Power Trowel is like a new car. Just as you would break in a new car to the road or any new machine to the job, you should start gradually and build up to full use. Learn what your machine can do and how it will respond. Refer to the engine manufacturer's manual for run-in times. Full throttle and control may be used after this time period, as allowed by material. This will serve to further break in the machine on your specific application, as well as provide you with additional practice using the machine.

We thank you for the confidence you have placed in us by purchasing a Bartell Walk-Behind Power Trowel and wish you many years of satisfied use.

WALK-BEHIND POWER TROWEL WARRANTY

Bartell Morrison Inc. agrees to furnish without charge, F.O.B. our plant, a replacement for any part or portion thereof, comprising the main unit of the Bartell Walk-Behind Power Trowel, consisting of the drive shaft assembly and the gear case assemblies, save and except drive belts, and power units, and/or bearing or electrical controls which prove upon our examination, to be defective in either material or workmanship within a period of twelve (12) months from date of purchase, provided that notice of such defective part or portion thereof is given to Bartell Morrison Inc. within the twelve month warranty period. No further or other guarantee or warranty expressed or implied in connection with the sale of the Walk-Behind Power Trowel is given and our sole liability consists in replacing defective parts or portions thereof. We shall not be responsible for any special, indirect or consequential damages arising in any manner whatsoever.

This guarantee is for the sole benefit of the original purchaser as end user. Our responsibility under this guarantee ends in the case the original purchaser transfers ownership of the Walk-Behind Power Trowel, makes any changes or adds any parts or devices not of our manufacture to the Walk-Behind Power Trowel.

MAINTENANCE RECORD

PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Walk-Behind Power Trowel has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Power Trowel. Your dealer is interested in your new machine and has the desire to help you get the most value from it. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your Bartell dealer. For your convenience we have provided this space to record relevant data about your Walk-Behind Power Trowel. When in need of parts or service be prepared to provide your Trowel serial number. Locate the serial number now and record in the space below.

Date Purchased:		Type of Machine:	
Dealer Name:		Model:	
Dealer Phone:		Serial Number:	

REPLACEMENT PARTS USED				MAINTENANCE LOG	
PART NO.	QUANTITY	COST	DATE	DATE	OPERATION

Routine Service Intervals		Each use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
General Inspection:							
Guards	Check		o	o	o	o	o
Warning stickers	Check		o	o	o	o	o
Test run:	Check operation		o	o	o	o	o
Controls:							
Dead-man switch operation	Check	o	o	o	o	o	o
Pitch control	Check	o	o	o	o	o	o
	Lubricate		o	o	o	o	o
Engine:							
Engine oil	Check Level	o	o	o	o	o	o
	Change		o		o		o
Engine oil filter	Replace				o		o
Oil cooler	Clean			o	o	o	o
Cooling Fins	Clean		o	o	o	o	o
Air cleaner	Check - clean	o	o	o	o	o	o
	Replace						o
Air Intake Line	Check				o		
	Replace						2 yrs
Fan Belt	Check tightness				o		o
	Replace						500 hrs
Valve clearance	Check-adjust				o		o
Fuel filter	Check & Clean			o	o	o	o
	Replace				o		o
Fuel Tank	Clean						500 hrs
Engine wiring	Check						o

Routine Service Intervals

Due to the nature and environment of use, Walk-Behind Power Trowels could be exposed to severe operating conditions. Some general maintenance guidelines will extend the useful life of your trowel.

- The initial service for your power trowel should be performed after 25 hours of use, at which time your mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule above. The chart on page 6 (six) is handy for keeping a record of the maintenance performed and the parts used for servicing your trowel.
- Regular service according to the schedule above will prolong the life of the Walk-Behind Power Trowel and prevent expensive repairs.
- Keeping your Walk-Behind Power Trowel clean and free from debris is the single most important regular maintenance operation, over and above the checks in the service schedule above, that can be performed. After each use your Walk-Behind Power Trowel should be cleaned to remove any dust and debris from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a non-stick coating was applied prior to use.
- In the Service Schedule above, items that should be checked, replaced or adjusted are indicated by "o" in the appropriate column. Not all Walk-Behind Power Trowel models include the same features and options and as such not all service operations may have to be performed. For ease of recording place a checkmark (√) through the "o" when the item is complete. If an item is not required or not completed place an "x" through the "o" in the box.
- All Walk-Behind Power Trowels have governed engine speed of 3600 rpm. See engine manufacturer's manual for exact specifications. Care should be used when making any adjustments to the Walk-Behind Power Trowel not to change the governed speed. Running the engine at lower rpm's will result in a decrease of compaction force and lower travel speed. It will create excessive "out-of-synch" vibrations resulting in poor compaction, maneuverability, excessive wear to the machine, and discomfort to the operator.
- Failure to have your Walk-Behind Power Trowel regularly serviced and properly maintained in accordance with the manufacturer's instructions will lead to premature failure and void the warranty.

MANUEL D'UTILISATION ET D'ENTRETIEN LES TALOCHEUSES

FOREWORD

The Bartell Walk-Behind Power Trowel is highly effective for a wide variety of surface, sub-soil, and back-fill materials. Although relatively light in weight and easy to operate, the Walk-Behind Power Trowel delivers a tremendous impact to the soil. Pound for pound, the Walk-Behind Power Trowels provide a higher impact force. That means more productivity from our ideal combination of speed and deeper compaction.

SAFETY PRECAUTIONS

- Always keep unauthorized, inexperienced, untrained people away from this machine.
- Rotating and moving parts will cause injury if contacted. Make sure guards are in place. Keep hands and feet away from moving parts.
- Fuel the machine only when the engine is stopped, using all necessary safety precautions.
- The engine must always be stopped before attempting any repair or adjustments. Ignition switch should be off.
- Be careful not to come in contact with the muffler when the engine is hot, serious burns may result!

DANGER:
Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes. Repair fuel leaks immediately. Refer to your engine owner's manual for more safety instructions.

ASSEMBLY INSTRUCTIONS

Your new Bartell Walk-Behind Power Trowel has been shipped to you partially assembled. Filling the fuel tank and a brief check of lubricant levels in preparation for operation is required. To complete the assembly the following instructions will be helpful.

1. **TROWELS** – Attach trowel blades with screws and lock washers supplied. See (A) and (B) Fig. 1. Be careful that adjusting screw (C) does not protrude below arm when attaching blades. This could cause the machine to jump and promote excessive wear in operation.
2. **STABILIZER RING** – (if supplied) Install using screws, bushings and lock washers supplied. See Fig. 1 (D)
3. **HANDLE ASSEMBLY** – Put cable end Fig. 2 (A) through hole in yoke (B) and secure with nut (C), then install handle bracket on gearbox. To get proper cable tension, turn control knob Fig. 3, counter-clockwise to stop position. Guide screw (B) will now be at the bottom slot. Tighten nut Fig. 4 (A) until slack is removed from point (B) as indicated. If more than 2 or 3 threads show through, then nut should be turned back. Guide screw, Fig. 3 (B) should be moved to next lower hole in slide bushing and cable re-adjusted as above. Turn hand knob completely clockwise and check for clearance between yoke and gearbox at point (C) Fig. 4. There should be enough space to pass a business card through.
4. **STATIONARY RING** – Install stationary ring as shown in Fig. 5 with the side bar on engine recoil side. (May not be exactly as shown). Install rubber bushings (A) on top and bottom of mounting plate. Install metal caps (B). Place ring on top and run screw (C) through caps and rubbers. Tighten lock nut (D) securely on bottom. It is best to start nuts on all 4 corners before tightening.
5. **ENGINE CONTROLS** – Attach throttle control to handle with screws provided. See DIAGRAM 1 below for your engine model hook-up. For safety switch connection, attach wire to terminal provided at "ON/OFF" location.
   The throttle cable must be cut and formed to fit. Feed the cable through the cable clamp on the engine. Pull the cable through the clamp until it forms a smooth arc from the handle to the engine. Mark the cable at the clamp and pull the cable back from the casing at the throttle. Without cutting the cable, Cut casing at the mark and push the cable back through fresh cut end. Form a small "L" bend in the cable, hook the inner cable into the throttle block and tighten cable clamp down onto the casing. With thumb lever and throttle block in the fully open position, cut the inner cable by the thumb lever, leaving enough wire exposed to secure to the lever. Insert the cable into the fitting and tighten the screw. Restore throttle to idle position.

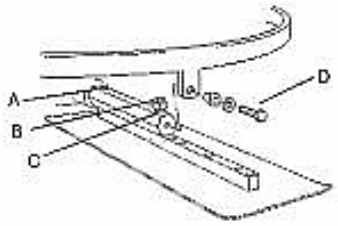
IMPORTANT:
Before running machine with belt installed, ensure that engine idles properly and that the safety-switch shuts off the engine.

6. **BELT GUARD** – Install after machine has been tested, taking care that it does not touch clutch or pulley.

ATTENTION:
For any information regarding engine adjustments, please refer to the engine manual supplied.

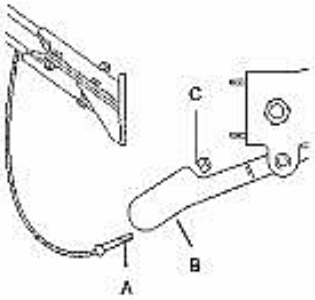
DIAGRAM 1

Fig. 1



REFER TO ENGINE MANUAL FOR THROTTLE CONTROL SETTING

Fig. 2



Honda—
GX160 5.5 H.P.
GX270 8 H.P.
GX340 10 H.P.
Shown in fast position

REFER TO ENGINE MANUAL FOR THROTTLE CONTROL SETTING

Fig. 3

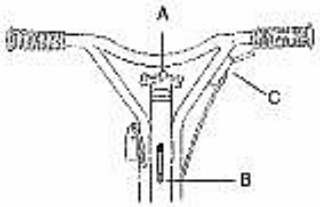
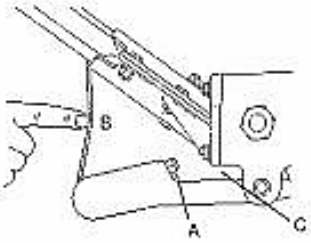


Fig. 4



Wisconsin Robin—
WI-185 4.6 H.P.
Shown in fast position

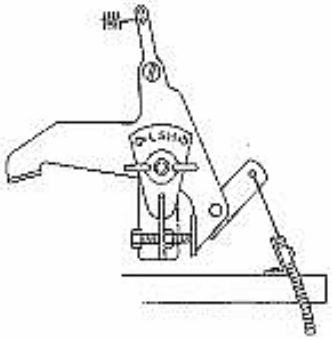
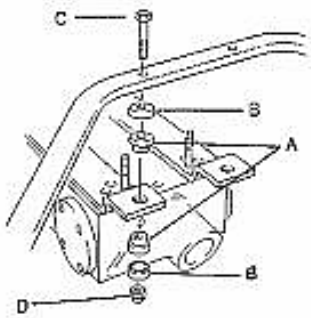
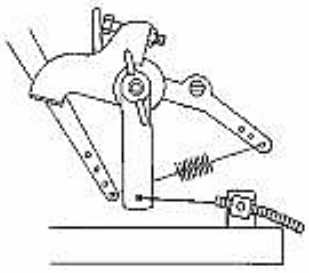


Fig. 5



Wisconsin Robin—
WI-280 7.5 H.F.
Shown in fast position



OPERATION (Floating)

When the slab has set sufficiently firm that the operator's footprint leaves a very slight depression on the surface of the slab, it is ready for the floating operation.

Under normal operating conditions the machine should cover as much as 1000 sq. ft. in about 15 minutes. It is recommended that a slight tension on the trowel control cable, (but *not* a definite tilt), during the floating operation will cause the machine to operate much smoother. After the floated slab has set sufficiently, it is ready for the finishing operation.

CAUTION:
Do not let the machine stand in one spot on the soft cement. Lift from the slab when the floating operation is complete.

OPERATION (Finishing)

When starting the finishing operation, never set the trowels up over 1/4" pitch. This is important. Guiding the machine on the slab is very simple, a slight upward lift of the handle causes the machine to travel to the left. Holding the handle in the neutral position, will slowly cause the machine to spin in one spot. Slight downward pressure on the handle causes the machine to travel to the right. Best results are obtained by covering approximately 4" on each turn. In other words, let the machine move right or left, backwards or forwards, approximately 4" with each revolution of the trowels. To fill a hole or cut down a hump, move the unit back and forth over the problem area.

After the first pass over the slab, the waiting time between operations is determined in the same manner as if you were hand troweling. To repeat; the entire application and action of the troweling machine in regard to getting on the slab, and the correct pitch of the trowels, is determined in the same manner as would be used by a cement finisher when troweling by hand.

STARTING PROCEDURE: **WARM CLIMATE*

Open fuel valve on gas tank. Set throttle lever to "Fast" idle position, set choke to closed position, start engine. Open choke slightly to prevent flooding. Move to "Open" or "Run" position when engine is warm, increase throttle to maximum operation position (3600 rpm).

STARTING PROCEDURE: **COLD CLIMATE*

Follow same procedure as above but allow longer warm-up period – 3 to 5 minutes. In cold weather, oil is much heavier to move and requires more time to work its way into the moving parts. If maximum power is not attained, allow further warm-up time. Fill fuel tank with clean gasoline, use safety approved gas containers. DO NOT MIX OIL WITH GASOLINE – USE UNLEADED GAS ONLY.

STOPPING PROCEDURE

1. Throttle engine down.
2. Turn off stop switch.

LUBRICATION

1. ENGINE OIL

The long life and successful operation of any piece of machinery is dependent on frequent and thorough lubrication.

Before using the trowel, always check your engine for oil. Use proper engine oil as recommended in the engine manufacturer's manual. Fill crankcase to levels as recommended.

2. SPIDER PLATE

There are 8 (eight) grease fittings on the spider plates, 4 (four) on each must be greased daily. ***SPIDER PLATES MUST BE GREASED EVERY TIME MACHINE IS USED.***

3. GEARBOX

Check the oil level sight plugs on both gearboxes daily to ensure the oil is half way on the site glass. Top up with Agma 8 compounded gear oil only. Gearbox capacity 16 oz. to 19 oz. (473ml. To 562ml.) Example: Esso/Exxon Cylesstic TK680.

4. TO CHANGE GEARBOX OIL

Place a pan beneath the drain plug to catch the oil. Remove the drain plug and the filler plug from the gearbox. After the oil has drained completely, replace the drain plug and tighten. Fill the gearbox through the filler plug with 16 oz. to 19 oz. (473ml. To 562ml.) of Agma 8 compounded gear oil. Replace the filler plug and tighten.

5. GREASE FITTINGS

There are 6 bearings in total. Grease all bearings and U-joints to ensure adequate supply of lubricant. They are located above the gearboxes (2 per gearbox) and 2 located in the drive system. The U-joints are located in the drive system as well.

ENGINE OIL SPECIFICATIONS

Season Temperature	Grade of Engine Oil
Spring to Autumn +40°F (4°C) to +120°F (49°C)	SAE 30
Winter +15°F (-9°C) to +40°F (4°C)	SAE 20
Below +15°F (-9°C)	SAE 10W-30

STORAGE

The following steps should be taken to prepare your Walk-Behind Power Trowel for extended storage.

1. Close fuel shut off valve.
2. Siphon excess gasoline from tank.
3. Start engine until it stops from lack of fuel. This will use up all the fuel in the carburetor and prevent formation of deposits due to evaporation of fuel.
4. Remove spark plug and pour 2 oz. of SAE-30 or SAE-40 motor oil into the cylinder. Slowly crank the engine 2 or 3 times to distribute the oil throughout the cylinder. This will help prevent rust during storage. Replace spark plug.
5. Store the unit in an upright position in a cool, dry, well ventilated area.

MAINTENANCE

Maintaining your Walk-Behind Power Trowel will insure long life to the machine and its components.

AIR CLEANER - Keep air filter clean at all times. Wash away dust and debris using a non-oil based cleaning solvent. Let the filter dry before re-installing.

LUBRICATION – Always check engine oil regularly. Use proper engine oil as recommended. See chart below. Fill crankcase to levels as recommended in manufacture's engine manual.

SPARK PLUG – Check and clean spark plugs regularly. A fouled, dirty or carboned spark plug causes hard starting and poor engine performance. Set spark plug gap to recommended clearance. Refer to engine manual.

BELT TENSION – IMPORTANT!

If there is excessive belt play, there will be a decrease in the impact force and erratic vibration, which could cause machine damage. The normal belt play should be 1/2" to 5/8" which is attained by depressing the top section of the belt at the belt guard mounting bracket location. When adjusting the belt make sure that the clutch is in alignment with exciter pulley. Tighten all engine mount bolts, adjust the two engine-stop bolts, and tighten lock nuts.

TROWEL ARM ADJUSTMENT FIXTURE

PART #20801

Ex: Unit 36" (B436)

1) 10810A – Trowel arm
2) 10817A – Lift lever
3) 10808 – Jam nut
4) 10809 – Set screw
5) 10824 – Block top
6) 10507 – Bolt
7) 10808 – Jam nut
8) 10807 – Carriage bolt
9) 10832 – Adjustment bar
10) 10507 – Bolt

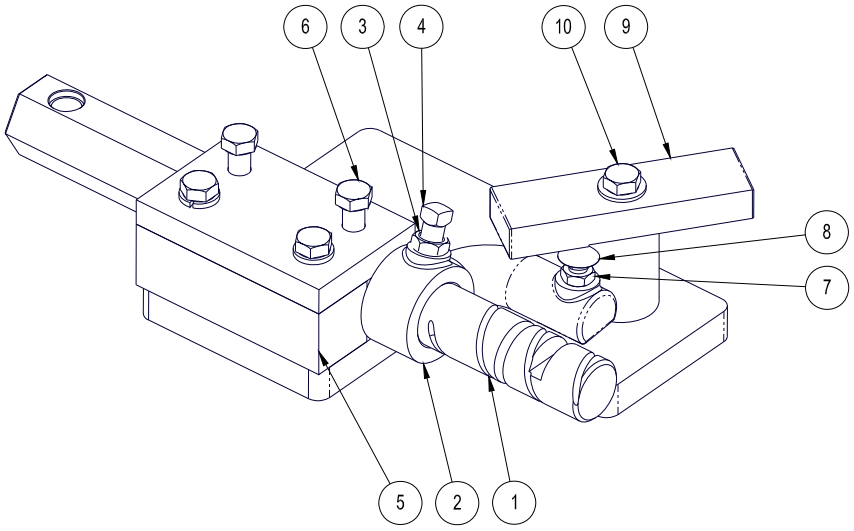


Figure 5a.

The trowel arm adjustment fixture (20801) is reversible. By rotating the arm clamping fixture and the ring bolt, both left hand and right hand trowel arms may be adjusted. Before attempting adjustment, determine whether the trowel arm is right handed or left handed. When adjusting left hand trowel arms use the side of the fixture marked "L". When adjusting right hand trowels arms use the opposite side. The adjustment bar will be set on "36" for the Walk-behind trowel arm.

ADJUSTMENT PROCEDURE

1. Remove all trowel arm assemblies (1 & 2 arm and attached lift lever) from suspected maladjusted spider plate.
2. Remove lift lever (2) from trowel arm (1) by first loosening jam nut (3) then square head screw (4). If upon inspection (method left to discretion of serviceman) any trowel arm (1) is found to be in a bent condition, it must either be brought back to its original straight condition (method left to the serviceman's discretion) or replaced with new part.
3. Replace lift levers (2) on new or straightened arms (1) by reversing procedure as described above.

   NOTE: IT IS IMPORTANT THAT WHEN TIGHT-ENING SQUARE HEAD NUT (4), IT SEATS ITSELF SECURELY INTO DIMPLE MACHINED IN ARM.
4. Place trowel arm assembly (1 and 2) in fixture (5) with lift lever (2) butting up against fixture. Secure in place with bolts (6).
5. Loosen locknut (7) and screw carriage bold (8) down to full depth allowable. This will provide for ample clearance to swing precision ground adjustment bar (9) over head of carriage bolt. Adjustment bar (9) is stamped for appropriate size of machine. Swing appropriate side directly over carriage bolt (8) and secure in place with bolt (10).
6. Adjust carriage bolt (8) upwards until contact is made with adjustment bar (9); holding carriage bolt in position with one wrench, tighten locknut (7) to secure in position with second wrench.

   NOTE: IT IS VITALLY IMPORTANT TO ENSURE THAT ONCE THE CARRIAGE BOLT IS ADJUSTED TO THE CORRECT HEIGHT, IT DOES NOT MOVE BEFORE, OR DURING THE TIGHTENING OF LOCKNUT.
7. This same procedure is to be followed with ALL arms from spider plate assembly, and will ensure correct and exact adjustment.

TROWEL ARM ADJUSTMENT SCREW

When assembling trowel blades to trowel arms, the adjustment screw should NEVER protrude below the under-side surface to a trowel arm except when using for emergency on-site adjustment to level trowel blades.

If the adjustment screw is not flush with the underside of the trowel arm, then this will cause the power trowel to bounce and vibrate especially at high speed. This will also cause the trowel blades to leave an uneven finish to the concrete due to the blades not being level to one another.

Make certain that the adjusting screw is held firmly in place while tightening the bolt which secures the blade to the trowel arm.

ASSEMBLY DRAWINGS AND PARTS LIST

WALK-BEHIND POWER TROWEL ASSEMBLY

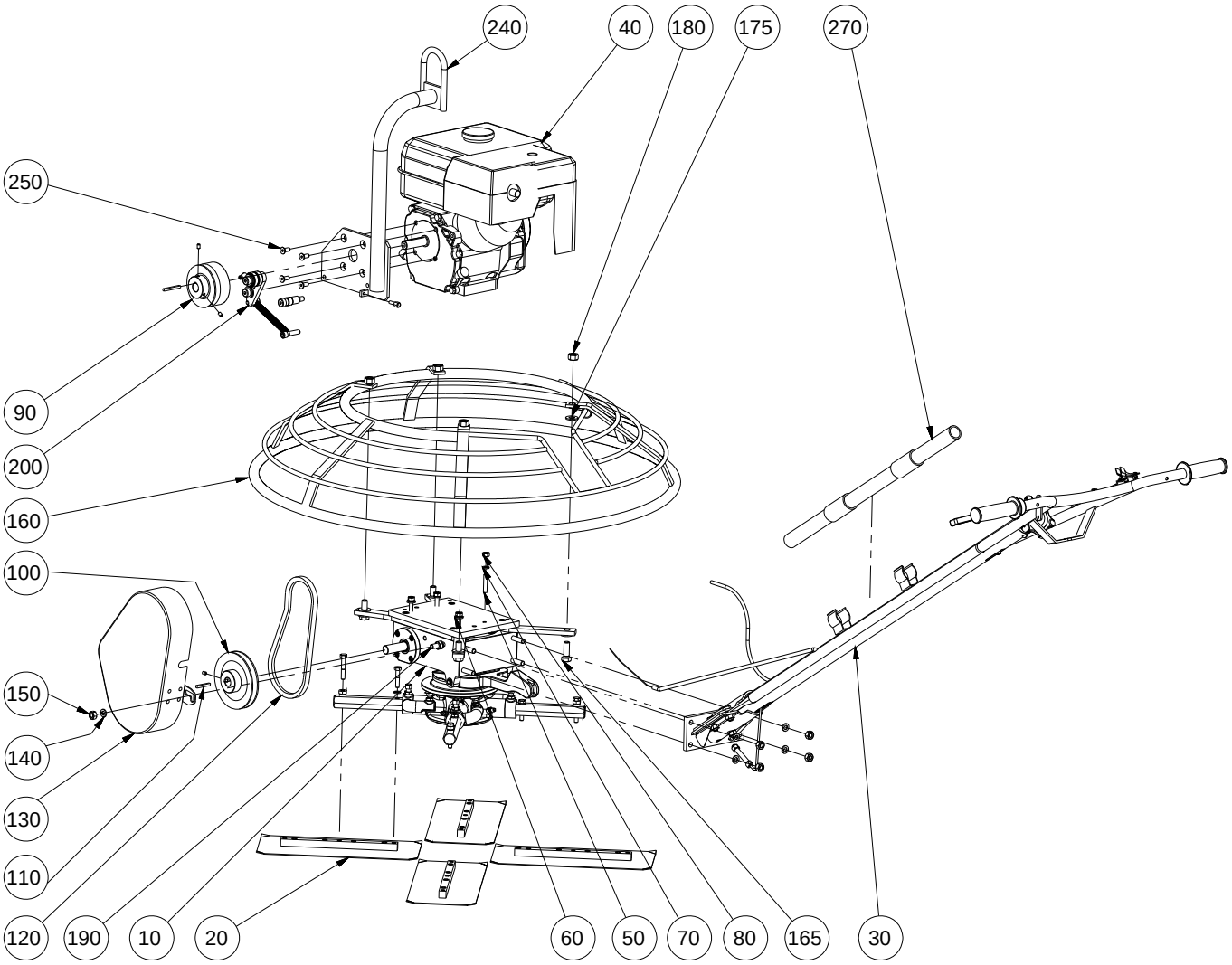


Figure 1 - Complete Trowel

Note: Some parts shown above are optional and may not be included with your trowel. Refer to the attached parts lists for complete list of parts applicable to your trowel.

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Base Unit	80	Hex Nut	150	Hex Nut	200	Emergency Stop
20	Blade Kit	90	Clutch/Drive Sheave	160	Guard Ring	240	Hoist Hook (opt.)
30	Handle Assy	100	Driven Sheave	165	Hex Hd. Screw	250	Flat Hd. Screw
40	Engine (opt.)	110	Key	170	Flat Washer	270	Carry Bar
50	Stud	120	V Belt	175	Rubber Washer		
60	Flat Washer	130	Belt Guard	180	Hex Locknut		
70	Lock Washer	140	Lock Washer	190	Stud		

CUSTOMER PARTS LIST

Assembly # **Walk-Behind Assembly**
Assembly List

Item #	Part # (436)	Part # (446)	Description	Qty	Eff. Date
10	20903	20901	Base Unit	1	6/8/2004
20	20033	20068	Blade Kit, 6 x 14, Finish Imperial	1	6/8/2004
30	20520A	20562	Handle Ass'm 36 Standard	1	6/8/2004
40	Engine	Engine	Honda, Robin, B&S	1	6/8/2004
50	14278	14280	Stud, Combo	4	6/8/2004
60	10919	10905	Flat Washer (5/16), (3/8)	2	6/8/2004
70	10402	10402	Lock Washer (5/16), (3/8)	4	6/8/2004
80	10915	10901	Hex Nut, (5/16-18), (3/8-16)	4	6/8/2004
90	21006A	21005	Clutch, B436 3/4" Bore	1	6/8/2004
95	11254A	N/A	Clutch Spacer	1	6/8/2004
100	14270	14285	Sheave,(5"x3/4"Bore),(MB58x3/4"Bore)	1	6/8/2004
110	10208A	10208A	Key 3/16"Sq x 1-1/2"LG	1	6/8/2004
120	11030	[1]11178	V-Belt, (A25), [1](B29)	1	6/8/2004
130	21066	21065	Belt Guard	1	6/8/2004
140	10902	10902	Lock Washer, 3/8" Dia	1	6/8/2004
150	10901	10901	Hex Nut, 3/8-16	1	6/8/2004
160	20447A	20448A	Safety Ring - Removable	1	6/8/2004
165	30019	30019	HHCS, 1/2-13 x 1 1/2"LG	4	6/8/2004
170	50026	50026	Flat Washer 1/2"	4	6/8/2004
175	11296	11296	5/8" Rubber Washer	8	6/8/2004
180	10547	10547	Nylock Nut, 1/2-13	4	6/8/2004
190	10910	10910	Stud, 3/8-16 x 1-3/4"LG	1	6/8/2004
240	20189	20189	Hoist Hook GX160, No Brake	1	6/8/2004
250	11256	11256	FHSCS 5/16-24 x 1"LG	4	6/8/2004
270	20512	20512	Carry Bar Ass'm	1	6/8/2004

Rev. 1 Belt for B446 changed, was 11047 (BP28) now 11178 (B29) 10/2005

BASE UNIT ASSEMBLY

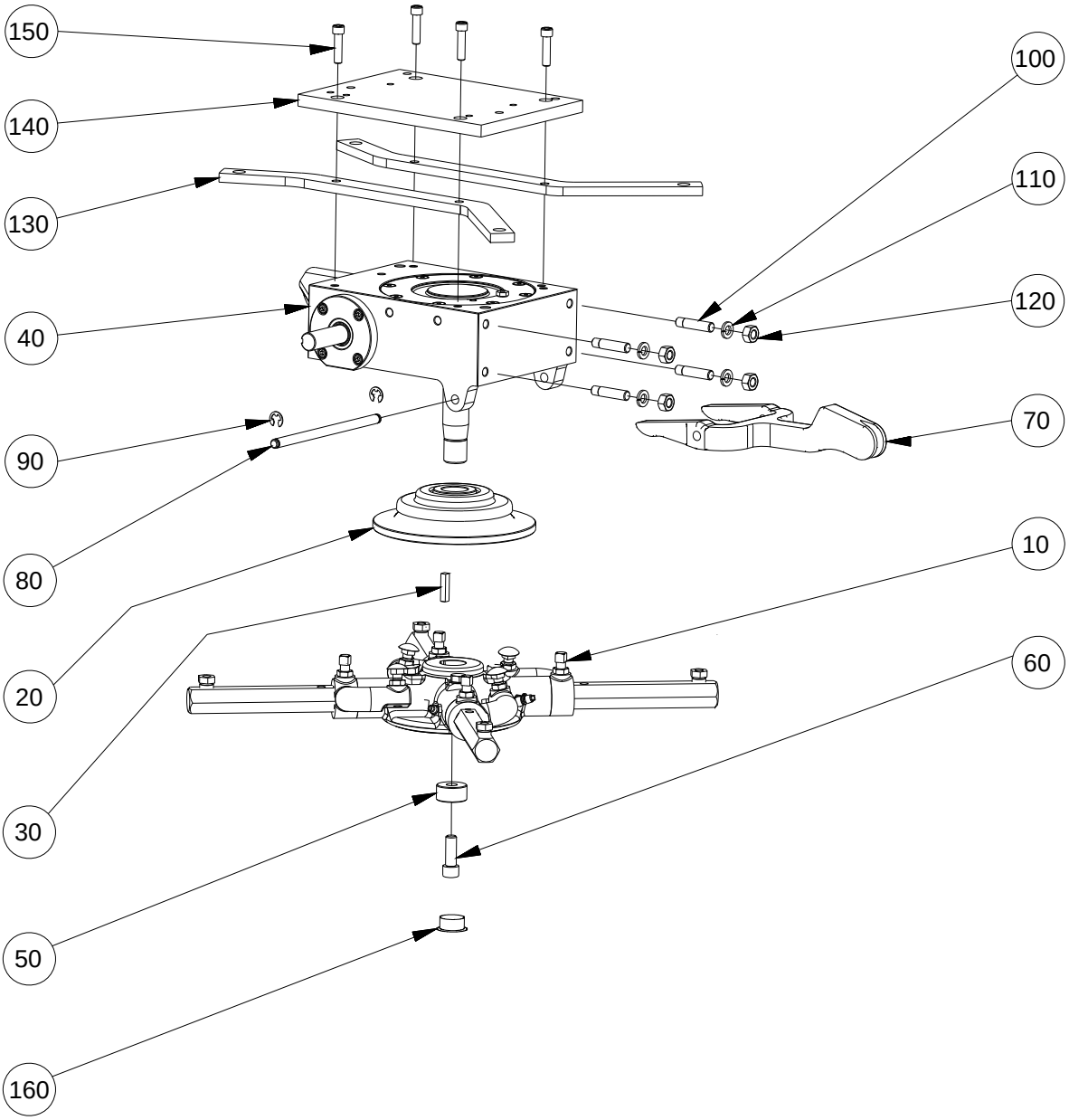


Figure 2 - Base Unit

Item #	Description	Item #	Description	Item #	Description
10	Spider Plate Assy	70	Yoke arm	130	Mounting Rails
20	Pressure Plate Assy	80	Pin	140	Engine Plate
30	Key	90	Retaining Ring	150	Soc.Hd. Capscrew
40	Gearbox Assy	100	Stud	160	Cap Plug
50	Retainer	110	Lock Washer		
60	Soc.Hd. Capscrew	120	Hex Nut		

CUSTOMER PARTS LIST

Assembly # **20903, 20901**
Base Unit, B436 / B446, Greased Spider

Item #	Part # (436)	Part # (446)	Description	Qty	Eff. Date
10	20810A	20820T	Spider plate Ass'y	1	5/1/2004
20	20627	20626T	Pressure Plate Ass'y	1	1/1/1997
30	10608A	10608A	Key, 1/4"Sq x 1-5/32"LG	1	5/1/2002
40	20921A	20928AT	Gearbox Ass'y	1	4/7/1998
50	10814	10804	Retainer	1	1/1/1997
60	10812	10802	SHCS (7/16-14x1-1/4"LG),(1/2-13x1-1/2"LG)	1	1/1/1997
70	10312B	10311C	Yoke Arm	1	3/1/2004
80	10923	10914	Pin	1	1/1/1997
90	10922	10913	Retaining Ring, E Type	2	1/1/1997
100	10910	10910	Stud, 3/8-16 x 1-3/4"LG	4	1/1/1997
110	10902	10902	Lock Washer, 3/8" Dia, Medium	4	1/1/1997
120	10901	10901	Hex Nut, 3/8-16	4	1/1/1997
130	14274	14315B	Mounting Rails (Incl LH & RH)	1	9/16/2003
140	14273	14316B	Engine Mounting Plate, Metric	1	9/16/2003
150	12727	14317	SHCS (5/16-18x1-1/4"LG),(3/8-16x1-1/4"LG)	4	9/16/2003
160	10823	10823	Cap Plug EC-12	1	1/1/1997

SPIDER PLATE ASSEMBLY

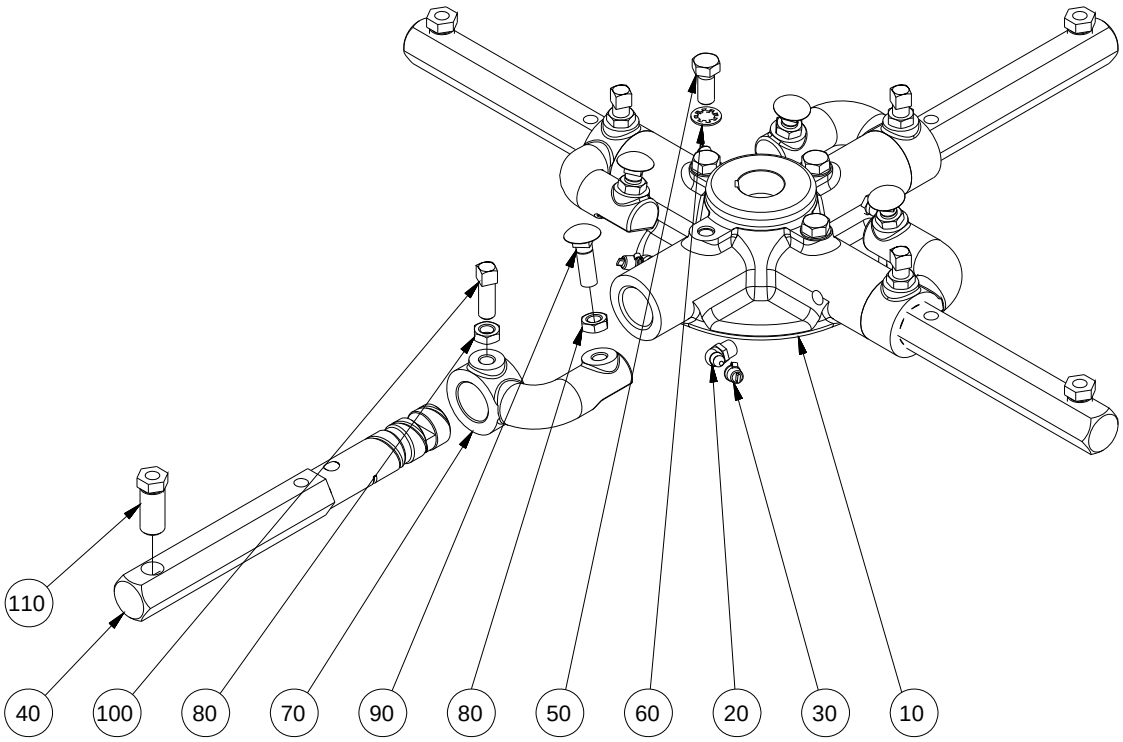


Figure 3 – Greased Spider Plate Assembly

Item #	Description	Item #	Description
10	Spider Plate	70	Lift Lever
20	Grease Fitting	80	Jam Nut
30	Cap	90	Carriage Bolt
40	Trowel Arm	100	Square Head Setscrew
50	Dog Screw	110	Adjuster Bolt
60	Lock Washer		

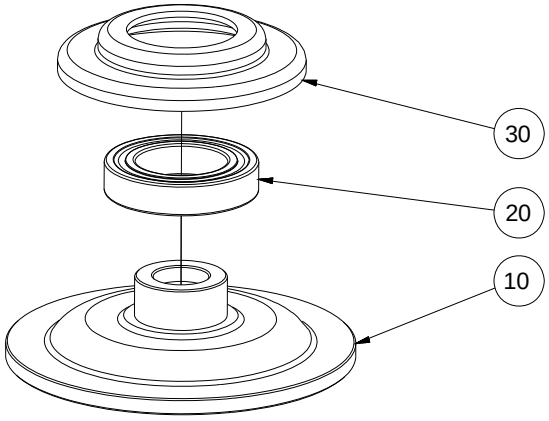


Figure 4 - Pressure Plate Assembly

Item #	Description
10	Pressure Plate
20	Thrust Bearing
30	Pressure Plate Cap

CUSTOMER PARTS LIST

Assembly # **20810, 20820**
Spider Plate Assembly, Greased

Item #	Part # (436)	Part # (446)	Description	Qty	Eff. Date
10	10810A	10820A	Grease Spider Plate	1	1/1/1997
20	10801	10801	Grease Fitting,1/8npt x 65°	4	1/1/1997
30	10822	10822	Caplug, Grease Nipple, Red	4	1/1/1997
40	10411A	10405A	Trowel Arm	4	9/5/2000
50	10806	10806	HHCS, 3/8-16 x 7/8"LG	4	1/1/1997
60	10805	10805	Lock Washer, 3/8"Dia	4	1/1/1997
70	10817A	10819A	Lift Lever	4	9/12/2000
80	10808	10808	Jam Nut, 3/8-16	8	1/1/1997
90	10807	10807	Carriage Bolt, 3/8-16 x 1-1/4"LG,	4	1/1/1997
100	10809	10809	SHSS, 3/8-16 x 1"LG, CUP PT.	4	1/1/1997
110	10404	10404	Adjusting Screw, 1-1/4" LG	4	1/1/1997

Assembly # **20627, 20626**
Pressure Plate Assembly

Item #	Part # (436)	Part # (446)	Description	Qty	Eff. Date
10	10660P	10659P	Pressure Plate	1	1/1/1997
20	10664	10663	Thrust Bearing P/P	1	1/1/1997
30	10668P	10667P	Pressure Plate Cap	1	12/6/2002

GEARBOX ASSEMBLY

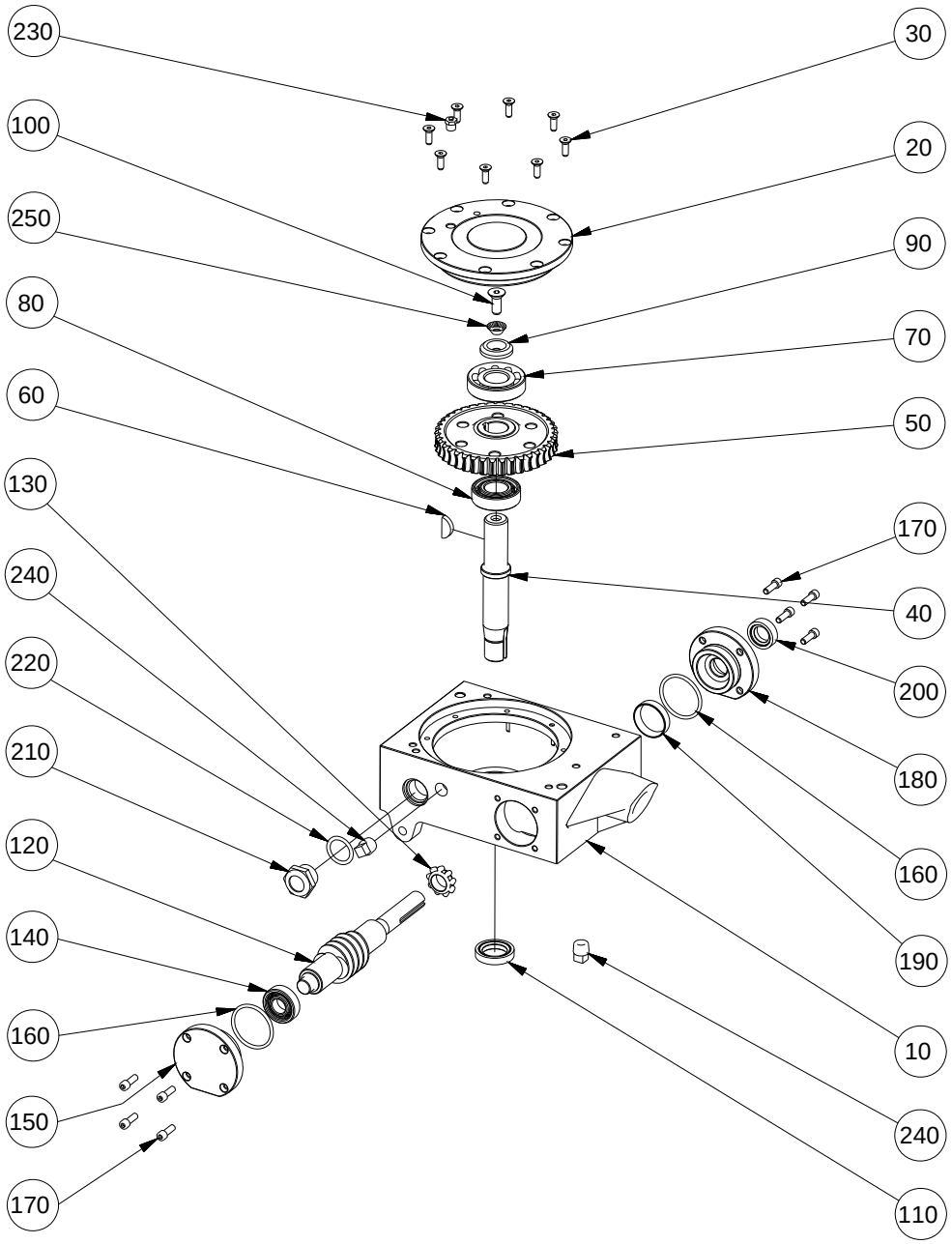


Figure 5 – Gearbox Assembly

Note: B436 (small) gearbox shown

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Gear Housing	80	Ball Bearing	150	End Cap	220	O Ring
20	Cover	90	Pressure Washer	160	O Ring	230	Relief Valve
30	Flat Hd. Screw	100	Flat Hd. Screw	170	Soc. Hd. Screw	240	Pipe Plug
40	Main Shaft	110	Oil Seal	180	Flange	250	Lock Washer
50	Worm Gear	120	Worm shaft	190	Bearing Cup		
60	Woodruff Key	130	Bearing Cone	200	Oil Seal		
70	Taper Bearing	140	Ball Bearing	210	Sight Plug		

CUSTOMER PARTS LIST

Assembly # **20921A (B436), 20928A (B446)**
Gearbox Assembly

Item #	B436	(B446)	Description	Qty	Eff. Date
10	10921A	10928A	Gear Housing	1	5/1/2004
20	10917A	10929A	Gearbox Cover	1	1/1/1997
30	10916	10903	FHSCS, 1/4-20 x 3/4"LG (5/16-18 x 1"LG)	8	5/1/2002
40	10618A	10607A	Main Shaft	1	4/7/1998
50	10616A	10605A	Worm Gear RH	1	1/1/1997
60	10615	10609	Woodruff Key	1	1/1/1997
70	10614	10603	Taper Bearing, 4T-30305 (4T-30306)	1	3/1/2004
80	10617	14256	Bearing, 6205 (6207)	1	1/1/1997
90	10613	10613	Pressure Washer	2	1/1/1997
100	10601	10601	FHSCS, 3/8-16 x 1"LG	8	1/1/1997
110	10621	10610	Oil Seal, 1 1/16"ID x 1 5/8"OD x 5/16"THK, EPDM (1 3/8"ID x 2.129"OD x 0.437"THK, EPDM)	1	1/1/1997
120	10279	10280	Wormshaft, RH	1	1/1/1997
130	10220	10229	Bearing Cone, 4T-6075 (4T-LM11949V1#BW)	1	9/16/2003
140	10224	10203	Ball Bearing, 6203 (6303C3T)	1	9/16/2003
150	10226A	10215A	End Cap	1	9/16/2003
160	10227	10228	O-Ring, #224, EPDM (#227)	2	1/1/1997
170	10213	10213	SHCS, 1/4-20 x 3/4"LG,Zinc Plated	8	1/1/1997
180	10217A	10231A	Flange	1	1/1/1997
190	10219	10230	Bearing Cup, 4T-6157 (4T-LM11910#BW)	1	1/1/1997
200	10214	10214	Oil Seal, 3/4"IDd x 1-1/4"OD x 3/8"THK, EPDM	1	1/1/1997
210	10930	10930	Sight Plug	1	1/1/1997
220	10931	10931	O-Ring, #213, EPDM	1	1/1/1997
230	10909	10909	Relief Valve	1	1/1/1997
240	10911	10911	Pipe Plug, 3/8 NPT	2	1/1/1997
250	10637	10637	Lock Washer C/S 3/8"Dia	1	2/07/06

HANDLE ASSEMBLY

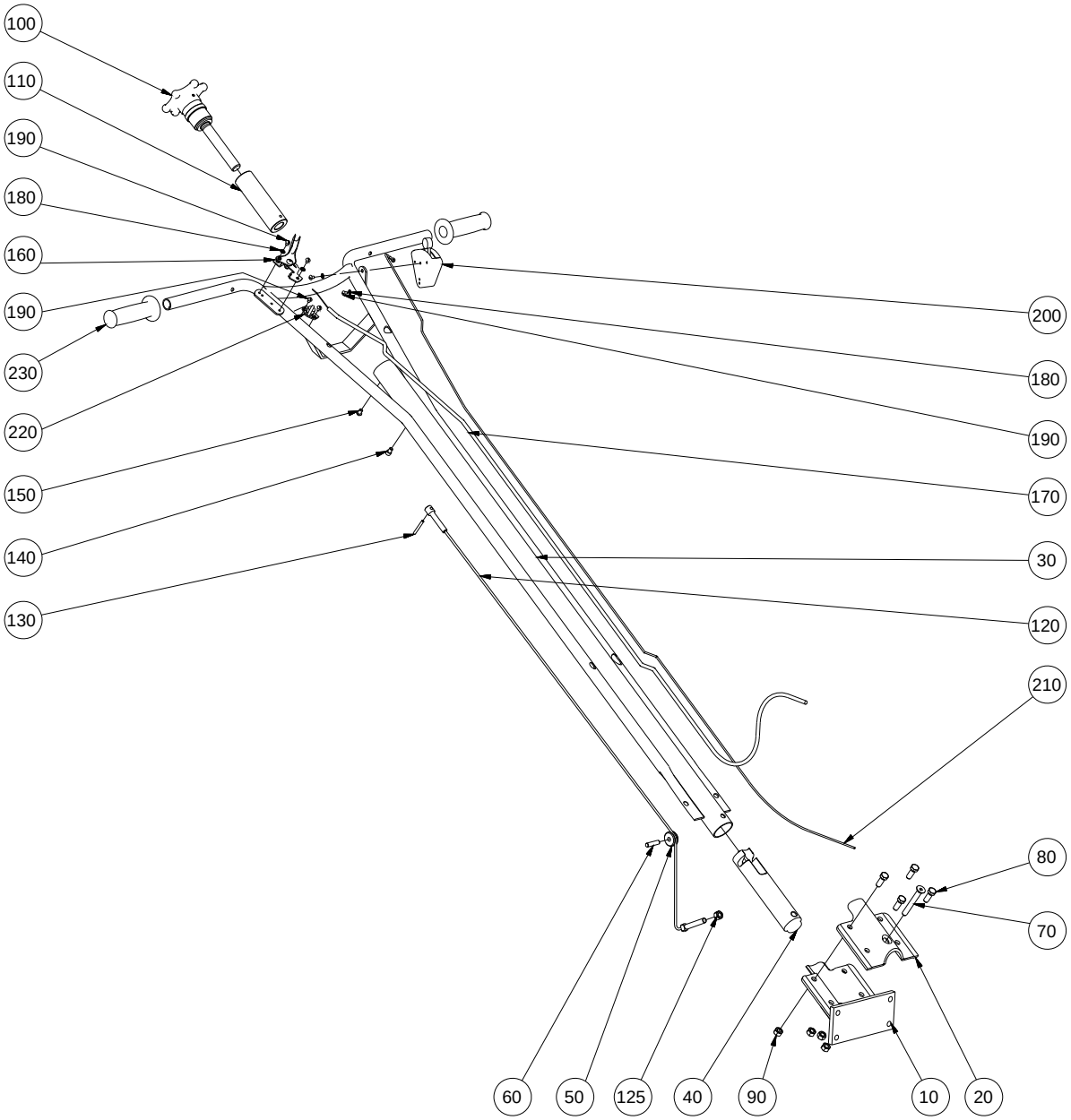


Figure 6 - Handle Assembly

Note: Not all items shown above may be included with your trowel, refer to attached parts list.

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Handle Bracket	70	Flat Hd. Screw	125	Hex Nut	180	Lockwasher
20	Handle Clamp	80	Hex Hd. Screw	130	Pin	190	Round Hd. Screw
30	Rigid Handle	90	Locknut	140	Soc. Hd. Screw	200	Deadman Switch
40	Support Block	100	Hand Knob Assy.	150	Round Hd. Screw	210	Deadman Wire
50	Pulley	110	Slide Bushing	160	Throttle Control	220	On/Off Switch
60	Pin	120	Pitch Adj. Cable	170	Throttle Cable	230	Handle Grips

CUSTOMER PARTS LIST

Assembly # **20520A (B436), 20562 (B446)**
Handle Assembly

Item #	(B436)	(B446)	Description	Qty	Eff. Date
10	20517	20564	Handle Bracket Standard	1	1/1/1997
20	10518	10505	Handle Clamp	1	1/1/1997
30	20519UC	20563UC	Handle Tube	1	1/1/1997
40	10516	10503	Support Block	1	1/1/1997
50	10515	10515	Pulley	1	1/1/1997
60	10514	10514	Dowel Pin	1	1/1/1997
70	10538	10506	HHCS 3/8-16 x 2-1/4"LG (2-1/2"LG)	1	1/1/1997
80	10507	10507	HHCS 3/8-16 x 1"LG	4	1/1/1997
90	10317	10317	Nylock Nut 3/8-16	6	1/1/1997
100	20302	20301	Hand Knob Assembly	1	1/1/1997
110	10314	10314	Slide Bushing	1	1/1/1997
120	20321A	20322A	Cable	1	1/1/1997
125	10901	10901	Hex Nut 3/8-16	1	1/1/1997
130	10309	10309	Pin 3/16"Dia x 1-1/2"LG	1	1/1/1997
140	10522	10510	SHCS 1/4-20 x 1/4"LG (3/8"LG)	1	1/1/1997
150	10511	10511	RHMS 1/4-20 x 3/8"LG	1	1/1/1997
160	10508	10508	Throttle Control	1	1/1/1997
170	20304	20305	Cable Assembly	1	1/1/1997
180	10703	10703	Lock Washer, #10 Dia, Internal	4	1/1/1997
190	10513	10513	RHMS #10-24 x 1/4"LG	2	1/1/1997
200	20713A	20713A	Safety Switch Assembly	1	2/26/2002
210	20702	20703	Wire Assembly	1	1/1/1997
230	10509	10509	Handle Grip	1	1/1/1997

INSTAPITCH HANDLE ASSEMBLY

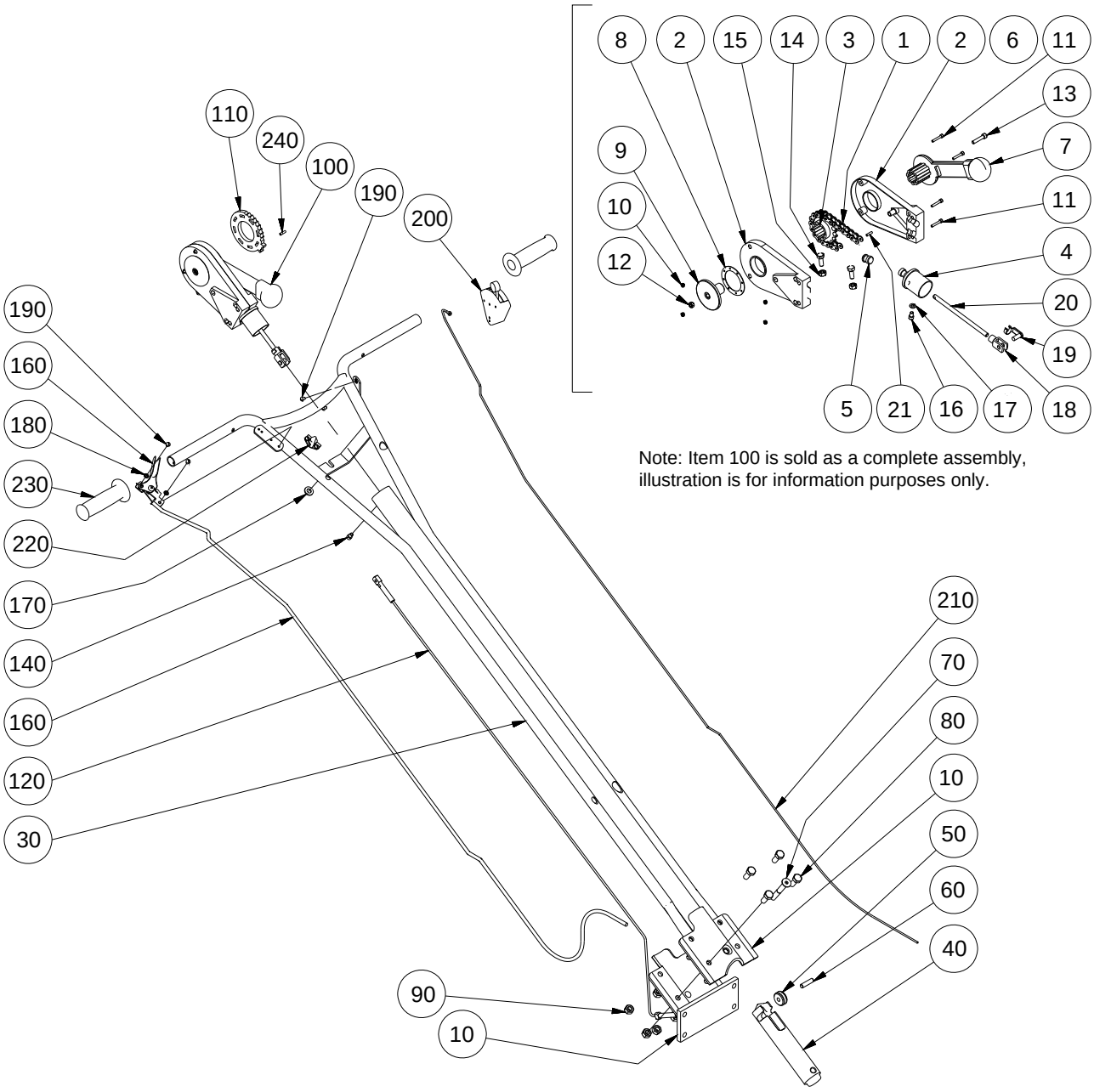


Figure 7 - Rigid Handle Assembly (Optional Instapitch)

Note: Not all items shown above may be included with your trowel, refer to attached parts list.
Small Rigid Handle Shown (B436).

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Handle Bracket	80	Hex Bolt	140	Socket Bolt	210	Deadman Wire
20	Handle Clamp	90	Locknut	150	Round Hd. Screw	220	On/Off Switch
30	Rigid Handle	100	Hand Lever Assy.	160	Throttle Control	230	Handle Grips
40	Support Block	110	Latch Disc	170	Flat Washer	240	Clevis Pin
50	Pulley	120	Instapitch Cable	180	Lock Washer		
60	Pin	125	Hex Nut	190	Round Hd. Screw		
70	Flat/Hex Bolt	130	Pin	200	Deadman Switch		

CUSTOMER PARTS LIST

Assembly # **20502 (B436), 20581 (B446)**
Handle Assembly (Instapitch Option)

Item #	(B436)	(B446)	Description	Qty	Eff. Date
10	20518	20564	Handle Bracket	1	1/1/1997
20	10505	10505	Handle Clamp	1	1/1/1997
30	11510	11513	Rigid Handle, Standard	1	1/1/1997
40	10503	10503	Support Block	1	1/1/1997
50	10515	10515	Cable Pulley	1	1/1/1997
60	10514	10514	Dowel Pin	1	1/1/1997
70	11583	11506	FHCS 3/8-16 x 3"LG (HHCS 2-1/2"LG)	1	1/1/1997
80	10507	10507	HHCS 3/8-16 x 1"LG, Gr5	4	1/1/1997
90	10317	10317	Nylock Nut 3/8-16	5	1/1/1997
100	14250	14250	Instapitch Adjust Lever	1	1/1/1997
110	14326	14326	Latch Disc, Instapitch	1	2/07/06
120	11539	20323A	Pitch Adjust Cable	1	1/1/1997
125	10901	10901	Hex Nut 3/8-16	1	1/1/1997
130	10309	10309	Pin 3/16"Dia x 1-1/2"	1	1/1/1997
140	10522	10522	SHCS 1/4-20 x 1/4"LG Plain	1	1/1/1997
150	10511	10511	RHMS 1/4-20 x 3/8"LG, Slotted	1	1/1/1997
160	10508	10508	Throttle Control	1	1/1/1997
170	10919	10919	Flat Washer, 5/16"Dia	1	1/1/1997
180	10703	10703	Lock Washer, #10 Internal Tooth	4	1/1/1997
190	10513	10513	RHMS #10-24 x 1/4"LG	6	1/1/1997
200	20713A	20713	Safety Switch Ass'y	1	1/1/1997
210	20702	20703	Wire Assembly	1	1/1/1997
220	50062	50062	Stop Switch	1	1/1/1997
230	10509	10509	Handle Grips	2	1/1/1997
240	12469	12469	Clevis Pin 3/16"Dia x 5/8"LG	1	2/07/06

BLADE KIT ASSEMBLY

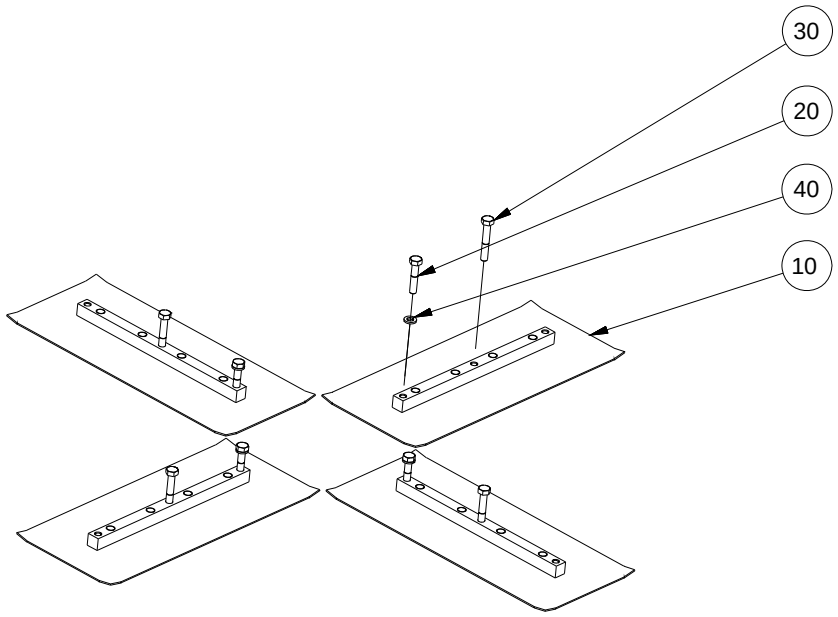


Figure 8 – Finishing Blade Kit

Item #	Description
10	Finishing Blade
20	Hex Bolt
30	Hex Bolt
40	Lock Washer

CUSTOMER PARTS LIST

Assembly # **20033, 20068**
FINISH BLADE KIT, IMPERIAL

Item #	Part # (436)	Part #(446)	Description	Qty	Eff. Date
10	20414A	20480	Trowel Blade, 6 x 14	4	1/1/1997
20	10403	10403	HHCS, 5/16-18 x 2"LG, Gr5	4,8	1/1/1997
30	10401	10401	HHCS, 5/16-18 x 1-1/2"LG, Gr5	4	1/1/1997
40	10402	10402	Lock Washer, 5/16"Dia	8,12	1/1/1997

TROUBLESHOOTING

WON'T START
- **Throttle fully open**
- **Hand lever wire broken**
- **No gas**
- **Dirty gas**
- **Gas filter plugged**
- **Gas line plugged**
- **Hole in gas line**
- **Gas supply valve turned off**
- **Dead-man safety switch**
- **Safety switch wire or connectors not making good contact**
- **Other engine problems (Refer to engine manual)**

STARTS BUT NO HIGH SPEED
- **Engine problems**
- **Throttle cable broken or seized**
- **Throttle lever and connectors loose or out of adjustment**
- **Clutch shoes worn**

STARTS AT HIGH SPEED, WON'T SLOW DOWN
- **Same as above**

ENGINE WON'T STOP
- **Safety switch, wire or connectors not making good contact**

ENGINE STARTS BUT WON'T TURN TROWELS AT ANY SPEED
- **Clutch seized**
- **No weights in clutch**
- **Wrong belt**
- **Broken or missing key**
  - **Clutch**
  - **Pulley**
  - **Worm gear (countershaft)**
  - **Main gear**
  - **Spider plate**
- **Gearbox seized**

TROWELS TURN, ENGINE AT IDLE
- **Idle too fast**
- **Belt too tight**
- **Clutch seized**
- **Pulley out of alignment**

TROWELS BLADES WEARING UNEVENLY
- **Spider plate seized**
- **Arms bent**
- **Adjusting screws (carriage bolts) incorrectly set**

MACHINE JUMPS ON FLOOR
- **Concrete hardened on bottom of spider plate**
- **Trowels unevenly worn**
- **Spider plate seized**
- **Spider plate loose**
- **Trowel arms bent**
- **Adjusting screws (carriage bolts) incorrectly set - use spider plate adjustment jig (pg,13)**
- **Mainshaft bent**

PITCH CONTROLS WILL NOT OPERATE BLADES
- **Cable broken or out of adjustment**
- **Slot screw missing (under-side of handle)**
- **Spider plate seized**
- **Pressure plate and/or yoke arm broken or badly worn**
- **Hand crank adjuster malfunctioning**

BELT WEARING RAPIDLY
- **Belt adjusted improperly**
- **Pulley out of alignment**
- **Wrong belt/defective belt**
- **Clutch sticking**
- **Gearbox seizing**

OIL LEAKS

a) Top of gearbox
   - **Engine leaks**
   - **Relief valve broken**
   - **Too much oil in gearbox**
   - **Set screw missing in cover**

b) Between end cap and gearbox (recoil side)
   - **"O" ring damaged**
   - **End cap not tight**

c) At mainshaft or countershaft
   - **Relief valve seized**
   - **Shaft and/or seal worn**

TROWEL BLADES WILL NOT TURN
- **Yoke arm broken**
- **Spline stripped**
- **Key sheared**

SPIDER PLATE HARD TO GREASE
- **Fittings plugged**
- **Cement in grease grooves of arms**
- **Grease fittings too tight**

SPECIFICATIONS

WALK-BEHIND TROWEL

Model	Path	Power Source (gas option)	Float Blade Size	Finish Trowel Size	Combination Blade Size	Pans Flaots	Pans Flaots	Operating Weight
B436	36" (90 cm)	5.5 hp Honda OHV 6 hp Honda OHV 9 hp Honda OHV 4 hp Robin OHV	10" x 14" (25 x 36 cm)	6" x 14" (15 x 36 cm)	8" x 14" (20 x 36 cm)	38 ½" (98 cm)	186 lbs. 85 kg	Up to 165 lb. (75 kg)
B446	46" (120 cm)	9 hp Honda OHV 9 hp Robin OHV 11 hp Honda OHV 11 hp Robin OHV	10" x 18" (25 x 46 cm)	6" x 18" (15 x 46 cm)	8" x 18" (20 x 46 cm)	48 ½" (123 cm)	187 lbs. 85 kg	Up to 245 lb. (110 kg)

Walk Behind Trowel (GASOLINE)	
Blade Speed (RPM) Engine Speed (RPM)	130-160 3600
Clutch Type Variable Speed	Centrifugal Yes
Gearbox Oil Gearbox Oil Capacity Engine Fuel Engine Oil Alert Cooling Starting	Agma 8 compounded gear oil 16 oz. (473 ml), 19 oz. (562 ml) Gasoline – Unleaded Yes Air Recoil Starter - Manual
Dead-man Safety Switch Fuel Capacity (approximately) Running Time (approximately)	Yes 3 Gal. (12.5 L) 2 ½ hours
Number of Blades	4
Engine Acoustic Power Lwa (dB) Engine Acoustic Pressure Lpa (Db) Level of Vibration Vibration value on the handle	97-103 82-86 1.1-1.5 7.0 aw
Options	Oil-Bath Spider Assembly Insta-Pitch Lever Hoist Hook Carry Bar Folding Handle

- *Power rating conforming to DIN 6270 & ISO 3048/1 Std.*
- *RPM results may vary by engine option.*

COMPANY INFORMATION

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(Directive 89/392/CEE, modified) and the rules governing its transposition

Mississauga, Ontario, Canada, September 2009

European Representative

Steve Adam

NOTES