

TCRS



Torque Converter Rebuilding Systems

Take Control of Your Most Critical Job in The Transmission Rebuilding Process.

Are you paying \$85 to \$100 each for rebuilt torque converters with no way of testing prior to installation? And wasting time and money on costly comebacks?



Take control and eliminate expensive comebacks. Step up to the next level — with the TCRS Torque Converter Rebuilding Systems from SuperFlow.

SuperFlow TCRS is the choice of high-production torque converter rebuilders worldwide, including big three automakers Ford, General Motors and DaimlerChrysler. The TCRS system is proven on more than 7-million torque converters. It has set the industry standard for precision alignment. It comes

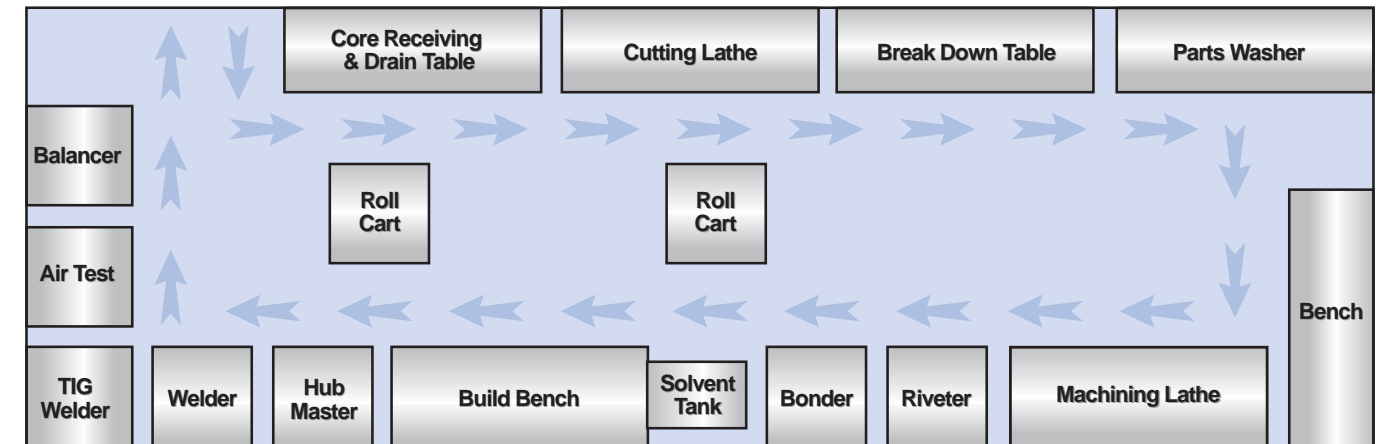
with the tools you need to do it right: lathes, bonders, welders and pre-install test equipment ... with repeatability and precision within .001 of an inch ... with world-class quality, parts support and service. It's no wonder it's the #1 choice of the automotive transmission industry, backed by seasoned experts who can help you plan, manage and maximize efficiency and profitability along the way. Call your SuperFlow representative today!

Does a SuperFlow TCRS System make sense for your operation?

Looking for a cost-effective way to increase operating margins with existing staff? Or, considering a new turnkey stand alone operation in your area?

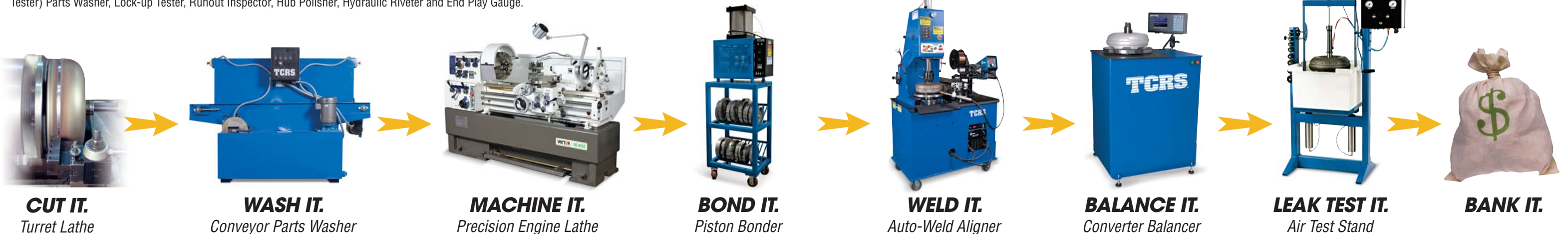
Everyone's situation is different, but as a general rule, if you're purchasing two or more converters a day from outside sources, you should explore the potential of an in-house converter rebuilding program for your own remanufacturing work and the extra income potential you can realize from other transmission shops in the area.

Typical shop floor plan for the TCRS System.

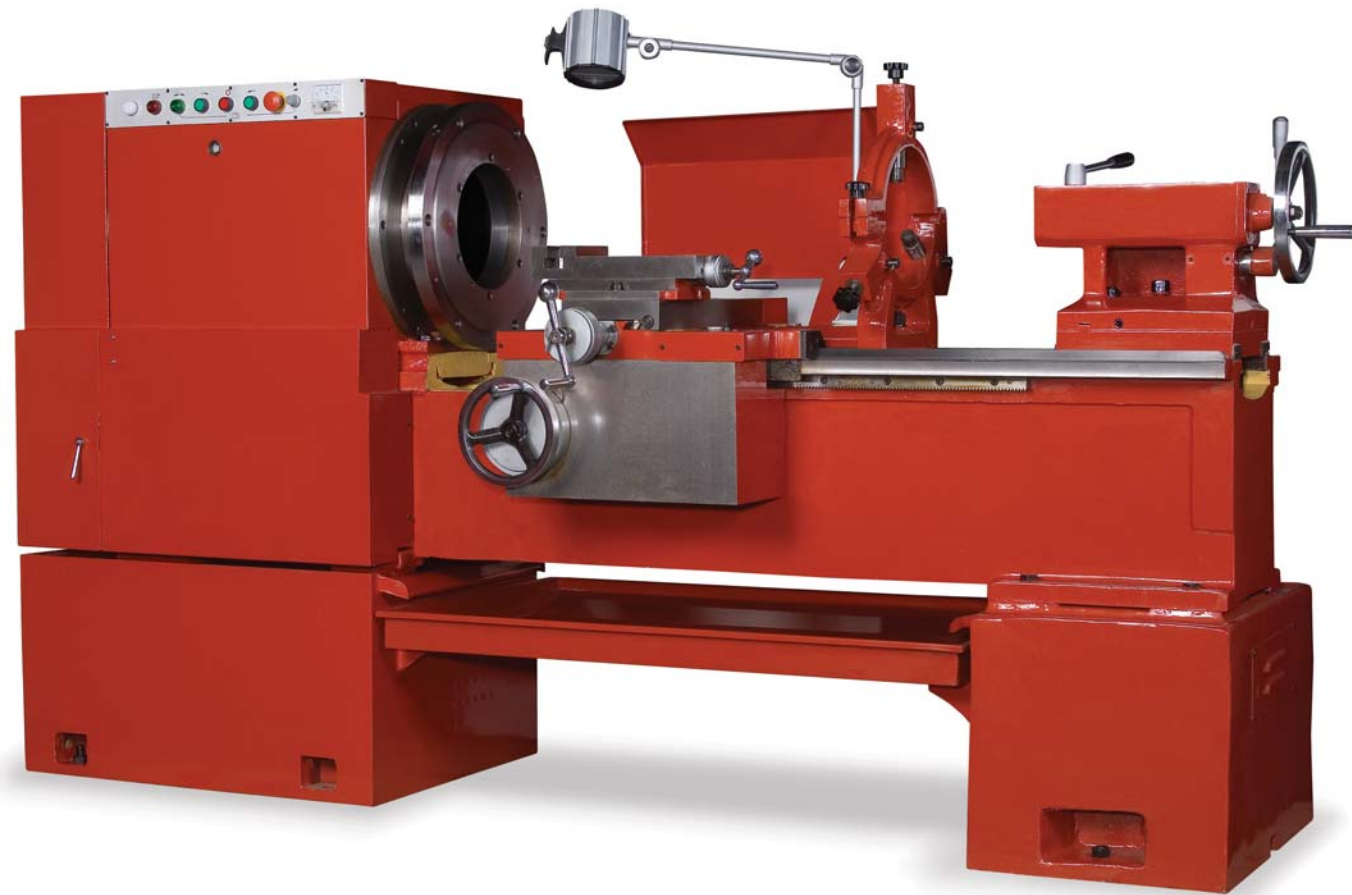


The TCRS System is a complete package!

Complete TCRS Converter Rebuilder System includes ... Welders (AWA2002 Vertical Welder, HM-2000 Hub Welder, 250 TIG Welder), Converter Balancer, 10" Piston Bonder, Precision Bushing Removal/Installation System, Leak Testers (Air Test Supertanker, Hub Leak Tester, Piston Leak Tester) Parts Washer, Lock-up Tester, Runout Inspector, Hub Polisher, Hydraulic Riveter and End Play Gauge.

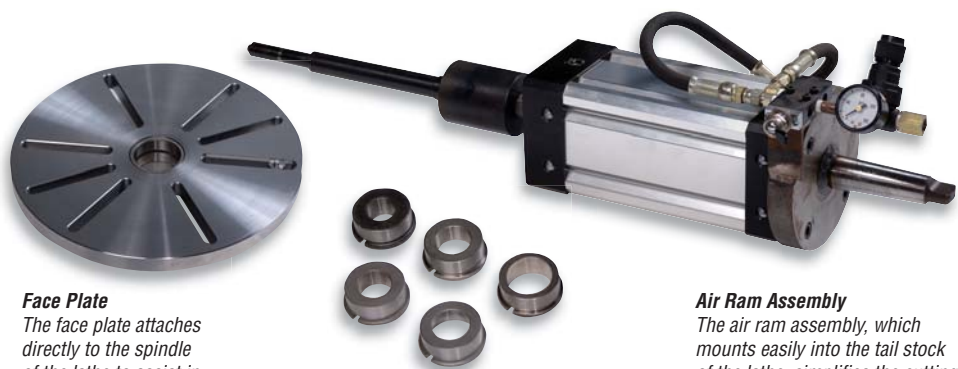
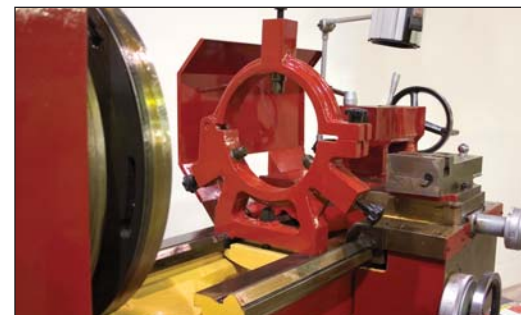


CUT IT.



Combo Lathe

With this heavy-duty, cast-frame 7 hp (5 kW) combo lathe, you're cutting open the complete range of torque converters and sizes with a cutting unit ideally suited for torque converter rebuild work. And when you use it as a dedicated cutting unit, there's no need to clean up and prepare for other machining operations. The Combo Lathe features variable speed (0-400 rpm), a 9 7/8" (25 cm) spindle bore, a 20" (51 cm) three-jaw chuck, 16" (41 cm) cross bed and 60" (152 cm) bed length. It comes equipped with a 4-way turret tool post and combination face plate/air ram assembly with #5 Morris Taper tail stock for the customization, security and convenience you want when working with different converter sizes. Steady rest, chuck cover, back splash guard and halogen work light are all standard.



Face Plate
The face plate attaches directly to the spindle of the lathe to assist in opening the converters or for machining one side of the converter.

Pilot Bushings

Air Ram Assembly
The air ram assembly, which mounts easily into the tail stock of the lathe, simplifies the cutting process and allows you to cut open the converter weld without having the converter fall apart.

FEATURES:

- Includes all standard machine accessories
- D1-6 Camlock spindle nose
- 2" (5 cm) Strait Tailstock bore taper M.T. #4
- 7 hp (5.2 kW), 3-phase 240VAC 50/60 HZ
- Four-way tool post
- Halogen work light
- Steady rest
- Chuck cover
- Back splash guard



Built-in stainless steel oil skimmer captures excess oil residue in the early washing stages.

Variable speed conveyor.



Conveyor Parts Washer

One of the biggest and best on the market, the PTW-1 gives you a fast, economical solution for high volume parts cleaning and degreasing with variable belt speed and 60 psi pump output. Choose the standard PTW-1, or select one of several other models that best fit your operation. Heavy-duty, quality-built drain work tables are also available to help you manage the mess without interrupting or slowing down the workflow from the cutting lathe to the pass-through wash process.



FEATURES:

- Variable speed conveyor; 15"H x 16"W (38 x 41 cm) opening
- Heavy-duty 12-gauge steel construction; fabricated with carbon or stainless steel
- 190 gallon (719 liters) water capacity
- 44 spray nozzles; 360° coverage
- 5 hp (3.7 kW) vertical seal-less pump; 60 psi (414 kPa) output / 65 gpm (246 l/pm)
- Stainless steel oil skimmer
- Low water shut-off switch
- Easy to operate controls
- Upgrades include drying blowers and rinsing section

WASH IT.

MACHINE IT.



Precision Engine Lathe

Extremely accurate. Easily interchangeable. The Victor 1640 and 1660 comes equipped with a 16" (41 cm) swing-over bed, variable speed spindle with 2.128" (5.4 cm) spindle bore and D-1 Camlock spindle nose. Steady rest, chuck cover, full length splash guard and halogen work light are all standard. A 7.5 hp (5.6 kW)/3-phase motor delivers all the power you need. Easily adaptable from converter machining to transmission parts work.



Bushing Removal and Installation (BP-1000)

Tired of damaging parts when removing bushings from transmission pump assemblies? Or from other tight places? This innovative machine engages even hard-to-reach bushings and extracts them cleanly. Installation is easy. And with precise hydraulic controls, you get perfect placement every time. Quick-change tooling and user-friendly foot pedal controls keep it simple.



Heavy-Duty Hydraulic Riveter (TCR-500)

Only heavy-duty hydraulic riveter custom-designed for torque converters. Removes and installs rivets at a single workstation for increased productivity. Convenient foot pedal makes it a simple and hands-free. Powerful motor provides up to 2,500 psi of smooth, precision-controlled power and adjustable needle valve control. Includes all popular punch and die tooling, including "rotary tooling" for fast, precise, perpendicular removal and installation of converter turbine hub rivets.

Piston Bonder (PB-2002)

Fast.

Affordable.

Compact.

Operator friendly.

As lock-up clutches get bigger, SuperFlow answers the need for more capacity with a bonder that accommodates large diameter pistons and front covers. Bonding the new Allison 1000/2000 Series lock-up pistons, for example, is no problem for a TCRS Bonder. The PB-2002 Piston Bonder can bond most lock-up pistons — up to 14" (36 cm) in diameter, including front covers every seven minutes on average.

How does it work?

Simply place the lock-up piston in the bonder and it heats, presses the clutch lining and automatically releases. (Some pistons require longer or shorter bonding cycles; timer can easily be changed.) Open the door, remove the finished piston and you are ready for the next one.

28 different aluminum bonder dies — instead of steel — allow you to heat faster, more evenly and eliminate hot or cold spots. Special order dies also available. A one-piece ring heater maintains even heat. And only top-grade USA pneumatic components are used. Optional storage cart available.

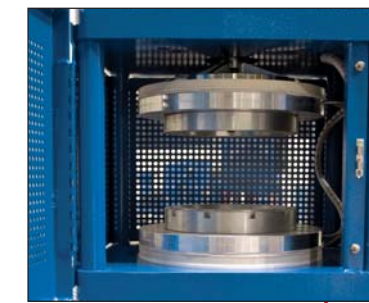


Aluminum bonder dies heat faster and more evenly than steel.



Platten Searer.

Specially designed for DaimlerChrysler torque converters. Removes excess fibers from friction material with a cycle time of less than 10 seconds. Heats to 575°F (302° C). Typically used as a second step in the bonding process.



Shown with optional storage cart and bonder dies.

BOND IT.

WELD IT.

Hubmaster Auto-Weld "Auto-Tack" (HM-2000)

Totally dedicated to hub alignment and welding. (Welds up to 250 hubs on impellers in a single 8-hr shift!) Installs new, finished ground hubs with perfect concentricity.



CYCLE TIME:

One minute to align, Auto-Tack, Auto-Weld and remove. Welds all impellers in one position. Bowl build-up capability saves money on critical cores.

FEATURES:

- Hard-chromed, precision-ground spindle alignment shaft
- Fully adjustable, 6-jaw precision ground turntable
- Timken® heavy-duty tapered bearings
- Rugged DC motor drive unit
- Includes all tooling for common converters
- Numerically controlled
- Automatic shut-off



Tac 12 Plus Digital Control Panel on Dual Gun Auto-Weld Aligner

Single Gun Auto-Weld Aligner



Dual Gun Auto-Weld Aligner

Single and Dual Gun Auto-Weld Aligners

The core of SuperFlow's high-production torque converter rebuilding system is the TCRS Auto-Weld Aligners. The Auto-Weld Aligner takes rebuilders through the critical phase of precision aligning and welding torque converters. Prior to this point in the transmission rebuilding process, you can manage each step perfectly; however, why waste all that hard work due to a converter out of alignment or incorrect clearance inside?

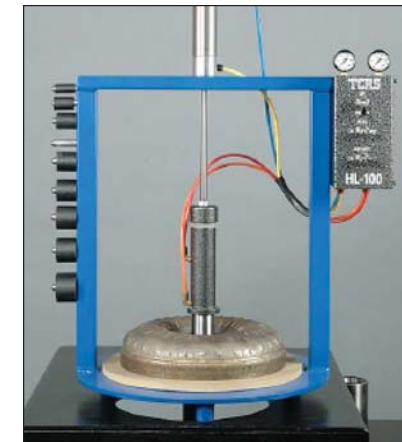
With TCRS Single and Dual Gun Auto-Weld Aligners, you have the precision tools to do it right and keep it simple at the same time. Air-operated collets. Patented auto-tack and auto-weld functions. And, the ability to do "bowl" buildups and weld on impeller hubs and ring gears. Choose the popular single gun with all-steel, precision aligned fixtures, precision-ground

hard chrome spindles and the proven reliability, ruggedness and ease of operation of a Miller® Welder (XMT 304 power supply and heavy-duty "dual roller" S-75 series wire feeder) ... or, for maximum productivity and throughput, step up to the Dual Gun Auto-Weld Aligner.

Also, check out the convenience and control you have with the TAC 12 PLUS Digital Control Panel. Now you can determine number of tacks — 4, 6, 8, 12 — and duration (approximately 570–1670 milliseconds) and control both auto-tack and auto-weld cycles. JOG control rotates the table without welding. An LED displays tack time, table speed and counts on the table motor encoder. Solid-state components ensure high reliability. The TAC 12 PLUS also retrofits with prior TCRS weld aligner units.

Air Test Stand (ATS-100)

The "SuperTanker" inspects leaks in seconds by pressurizing the converter with air and immersing the converter in water to check for any imperfections or pin hole leaks. It works on all torque converter models from the new Allison 1000 to a Volkswagen/Audi converter ... and virtually any size hub with included rubber grommet sets. Fastest on the market. Operator safe and friendly. Fingertip controls. Easy to clean. The reservoir raises water level to any height on the converter. Comes with air-operated hand lever, air-adjusted regulators and air-operated sealing device. Torque converter locks in place at a 45° or 90° angle for easy leak repair or for addition of balance weight.



Hub Leak Tester (HL-100)

Test hubs for leaks before you weld the bowl together. Saves time and money. Plus, it's easy to operate. Simply select the proper size rubber grommet, place the impeller on the rubber pad, lower the cylinder, inflate to 40 psi (276 kPa), spray water on the weld, mark leaks for repair and raise the cylinder. Within 60 seconds, you're ready to test the next unit. Comes with "spud" adapter for hub leak testing "shorty" front wheel drive hubs and some flanged hubs.

Looking for an affordable hub welding alternative for low volume shop work. SuperFlow also offers a complete set of tooling and fixtures that enable you to manually align and weld the hub in small batch runs. Ask your SuperFlow TCRS representative for complete details.

LEAK TEST IT.

BALANCE IT.

A-107 Torque Converter Balancer

The new, improved TCRS Torque Converter Balancing System features automatic weight indexing, a runout compensation mode, push button polishing — and better accuracy and repeatability than previous TCRS designs.

The TCRS A-107 Torque Converter Balancer incorporates SuperFlow's proven embedded microprocessor technologies into a new re-design. It is extremely accurate, user friendly and reliable. In fact, without any bolting required, an operator using either touch screen or key pad controls can balance a torque converter in as little as 45 seconds. In addition, since the system is NOT SENSITIVE to welders, weights can be welded to the torque converter without removing it from the balancer.

Exclusive proprietary design allows it to compensate for misalignment in tooling. Self-calibration is also integrated into the system.

The TCRS A-107 Torque Converter Balancer accommodates virtually all torque converter models and sizes: foreign, domestic, high performance. Standard domestic tooling (approximately 80 pieces for Ford, GM and DaimlerChrysler) is included with the package. With special tooling, it can handle several other industrial-type applications; i.e., flywheels, clutches, etc.



A variable frequency drive motor is used to spin the torque converter at adjustable acceleration rates to eliminate any unintended movement of internal components to further improve accuracy.

FEATURES:

- Automatic weight indexing. Torque converter stops at the precise position where weight needs to be added
- Highly sophisticated runout compensation mode with exclusive proprietary design
- Touch screen and key pad for entering torque converter parameters
- Display shows weight placement and rotation. LCD screen displays correction weight in either grams or ounces
- Displays within 1/10th of a gram
- Standard domestic tooling (80 pieces; Ford, GM and DaimlerChrysler) included
- Optional hub polishing and/or runout mode
- Maximum spindle torque = 263 in-lbs (30 N-m); maximum speed = 480 rpm



The TCRS A-107 claims much higher resolution and accuracy than previous models — within 1/20th of a degree in positional accuracy.

PTW-1 Conveyor Parts Washer

Dimensions	87"L x 60"W x 55"H (221 x 152 x 140 cm)
Weight	1,500 lbs (680 kg)
Conveyor Opening	15"H x 16"W (38 x 41 cm)
Pump Motor	5 hp (3.7 kW)
Power Source	240/440 Volt 3Ph
Heat Source	18 kW w/thermostat
Seal-less Pump/Motor Output	60 psi-65 gpm
Work Load	500 lbs (227 kg)
Solution Capacity	190 gallons (719 liters)
Spray Nozzles	44
Warranty	One year parts

OPTIONS DESCRIPTIONS:

- REGEN-1: AIR RE-GEN BLOW-OFF UNIT
- F-1: FILTER SYSTEM
- F-3: CYCLONIC FILTER SYSTEM
- TC-24: 24 HOUR TIMER
- 9985: PANTHER TONGUE SKIMMER
- INS-3: INSULATION PACKAGE
- AWF : AUTOMATIC WATER FILL

BP-1000 Bushing Removal and Installation

Dimensions	30"D x 28"W x 70"H (76 x 71 x 178 cm)
Weight	250 lbs (113 kg)
Power Requirements	220 volt, single phase
Finish	Powder-coated blue
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)

TCR-500 Heavy-Duty Hydraulic Riveter

Table Size	26"L x 29"W x 36"H (66 x 74 x 91 cm)
Overall Size	26"L x 35"W x 70"H (66 x 89 x 178 cm)
Weight	400 lbs (181 kg)
Finish	Cabinet-powder-coated blue; top-blue/black
Power Requirements	220 volt, single phase
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)

PB-2002 Piston Bonder

Dimensions	19"D x 26"W x 35"H (48 x 66 x 89 cm)
Weight	600 lbs (272 kg)
Electrical	220 single phase 25 amp
Finish	Powder-coated blue
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)
Air Ram	10" diameter (25 cm)

Auto-Weld TCRS Single & Dual Gun

Dimensions	36"D x 56"W x 87"H (91 x 142 x 221 cm)
Weight	1,450 lbs (458 kg)
Electrical	Turntable drive motor requires 110 v single phase, 50 or 60 hz. Welder power supply runs on single phase or three phase, from 200 v to 575 v.
Finish	Powder-coated blue
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)
Fixture Body	All steel and precision-aligned

Turntable Stress relieved and precision CNC machined. Two HD Timken® tapered bearings with floating bronze ground. Fully adjustable on all axes for easy, precision alignment.

Collet Closer Assembled from tool steel and precision-ground. Precision-machined DELRIN® hub bushings assure hub protection and repeatable performance. Air-operated collet; "buckable" for easy, precision alignment.

Drive Motor 950 lbs (431 kg) of torque with insulated coupler.

Welder Miller® brand components, using the XMT 304 power supply and heavy-duty "dual roller" S-75 Series wire feeder.

Air Requirements Standard shop air, 100 – 120 psi (690 – 828 kPa)

HM-2000 Hubmaster Auto-Weld "Auto-Tack" Bonder

Dimensions	36"D x 60"W x 58"H (91 x 152 x 147 cm)
Weight	1,100 lbs (499 kg)
Electrical	110 v required; welder power supply requires single or three phase, from 200 v to 575 v.
Finish	Powder-coated blue
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)

ATS-100 Air Test Stand

Dimensions	30"D x 28"W x 70"H (76 x 71 x 178 cm)
Weight	160 lbs (73 kg)
Finish	Powder-coated blue
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)

HL-100 Hub Leak Tester

Dimensions	24"W x 20"D x 35"H (61 x 51 x 89 cm)
Weight	60 lbs (27 kg)
Finish	Powder-coated blue
Air Requirements	Standard shop air, 100 – 120 psi (690 – 828 kPa)
Grommets	Full set of rubber grommets conveniently mounted on the machine.

A-107 Torque Converter Balancer

Dimensions	28"D x 21"W x 45"H (71 x 53 x 114 cm)
Weight	300 lbs (136 kg)
Electrical	120 VAC 50/60 hz 8 amps max
Finish	Powder-coated blue
Accuracy	Display to +/- 1 gram in fine mode; +/- 5 gram in standard mode
Tooling	Collet locking system with interchangeable one-piece, precision-ground splined shafts. American tooling included.

HR-100 Hub Runout Inspection System

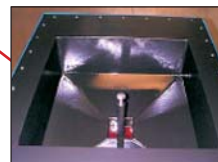
Dimensions	18"D x 20"H (46 x 51 cm)
Weight	90 lbs (41 kg)
Faceplate	14.5" diameter (37 cm)
	<ul style="list-style-type: none"> ■ Precision Bronze Bearing Assembly ■ Two Precision Indicators ■ Hand Spin

Converter Oil Purge ("COPS") System (CP-100)

Looking for a way to generate extra fuel for your space heaters or waste-oil-fired parts washers, and purge oil from your torque converters prior to storing or shipping? Tired of giving away (and paying freight) for ATF that's still in the converter after dyno testing your converters and transmissions? Want to eliminate the mess at your cut open lathe by purging converters beforehand? Here's the answer! A SuperFlow Air Injection Converter Oil Purge System! Simply invert the converter on the air injection shaft and you eliminate up to 97% of the ATF from the unit.

**FEATURES:**

- 20 gallon (76 l) storage tank
- Integrated electric pump to transfer oil to a bulk storage tank.

**Hub Runout Inspection System (HR-100)**

Don't let a bad converter ruin your rebuild! Check your converter before you install it in the transmission!

This easy-to-operate unit checks "pilot-to-hub" run out, "bowl" run out and the overall converter height on any automotive unit. Easy to operate. Interchangeable "hardened and ground" steel pilot bushings. Tooling sold separately.

**End Play Gauge**

Check your converter ... before you install it in the car! Whether you build torque converters or get them from the distributor, this valuable, easy-to-use tool tells you if internal clearances are good or bad and pays for itself with just one comeback. Measures clearances on most torque converters, foreign and domestic, from the VW to the E40D to the V10 Dodge. Just place the converter on the fixture, set the dial to 0, press the handle down and read the clearance. It's that easy!

**Torque Converter Dynamometer***

Dyno test torque converters under real-world, full-load conditions ... every 3 minutes! It's quiet and easy to operate. Whisper-quiet variable speed electric drive allows you to easily detect abnormal converter sounds. An eddy current brake provides controllable, constant and repeatable dynamic loads.

*Patents pending

**FEATURES:**

- 30 hp (22.5 kW) standard electric motor (higher hp ratings available up to 60 hp)
- Hydraulic pump; produces regulated pressures up to 120 PSI (828 kPa)
- Aircraft-grade disc/caliper assembly with eddy brake for full load stall testing
- Easy-access, interchangeable tooling (OEM pump seals and bushings)
- Heavy-duty filtration system to flush contaminants
- 30 gallon (114 l) ATF reservoir for heavy-duty oil heating and cooling. A fully integrated software system lets you program customized tests and reports. Purge tanks evacuate ATF 'just tested' into reservoir. And more!

CAPABILITIES:

- Control and read input torque and RPM
- Read output torque and RPM
- Measure temperature of input and output fluid
- Monitor converter flow
- Control and read input and output fluid pressure
- Check converter clutch under load
- K-factor reading
- Printed reports; also stored on computer

Member of Torque Converter Rebuilders Association, representing and serving the common interests of owners and managers of torque converter rebuilding facilities throughout the United States. To inquire about membership visit www.tcraonline.com.

TCRA

SuperFlow
TECHNOLOGIES GROUP

For information on **Transmission Dynamometers, Transmission Testers, Torque Converter Rebuilding Systems, Driveshaft Rebuilding Equipment and Brake Dynamometers**, contact:
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