



**ADVANCE MFG. CO., INC.**



HYDRAULIC TORQUE WRENCHES

COMPUTERIZED TORQUING SYSTEMS

CALIBRATION EQUIPMENT



SERVING THE GLOBAL MARKETPLACE  
FOR OVER 50 YEARS

## INTRODUCTION

We have compiled this catalog to illustrate and define Advance Mfg. Co., Inc's hydraulic torque wrenches and associated products.

*Our torque wrenches produce an accurate torque, ranging from 14,400 to 1,000,000 In-lbs.*

*Designed for use on applications that require fastening or unfastening of threaded elements in aircraft engines, helicopters, submarines, public utilities and construction industries. Advance Mfg. Co., Inc wrenches fulfill any requirements dictated in the precision assembly or disassembly of threaded components.*

*The products, outlined in this catalog have found worldwide acceptance, with extensive use in the aircraft industry, on both commercial and military jet engines. We certify the wrenches for precise accuracy, within 3% of the full range of the wrench. Each is equipped for easy visual checking of input torque values, allowing the user to assure the correct torque value on the fastener.*

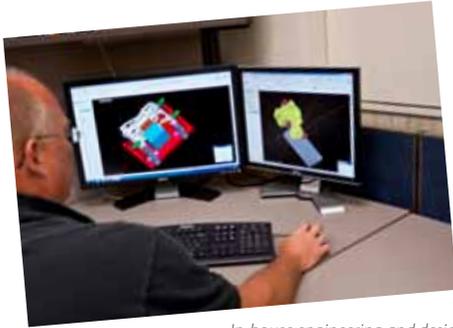
*Safe and simple to use, these wrenches completely eliminate the strong-arm, backbreaking work currently required to operate mechanical type torque multipliers: They can be used to full capacity by using only fingertip control.*

*The accompanying chart outlines the capacities of the different models of wrenches designed and manufactured by Advance Mfg. Co., Inc.*

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Model #	Capacity		
	Ft-lbs.	In-lbs.	
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AH-60 AH-60CR	6,000	72,000	5
AH-1043* AH-1060* AH-1043CR* AH-1043TC* AH-1043TCR*	10,000	120,000	6
AH-2043CR* AH-2043TCR* AH-2060CR* AH-2060TCR*	20,000	240,000	7
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\*Available with Digital Readout

## PRODUCT DESCRIPTION



*In-house engineering and design*

### Torque Wrenches

The torque wrenches described in this catalog, with the exception of the AHX-T550, are of the ratchet and pawl design, and are capable of both clockwise and counter-clockwise rotation without repositioning the wrench on the application. The pawls, which determine the direction of rotation and the application of torque, are engaged to the ratchet manually with a shifter that is conveniently located on the face of the wrench. Using fingertip control the operator can easily shift the pawls (change direction), allowing the operator to use the wrench to its full capacity in the fastening application. A directional valve mounted on the face of the wrench controls fluid flow within each wrench. This valve precisely controls the rate at which the torque is applied, which allows the operator to apply and hold the exact torque requirements for the fastener application. An electric, pneumatic, or a hand pump supplies the hydraulic pressure. The built in travel indicator allows the operator

to easily view the direction and amount of rotation of the ratchet. There is also an angular protractor mounted to the spline drive for applications requiring a combination of seating torque and final angle of turn.

The AHX-T550 model torque wrench has a face type, hydraulically driven ratchet, which will apply a torque in only one direction. To obtain torque in the opposite direction, it is necessary to turn the wrench over. This wrench is specifically designed to quickly remove (teardown) highly torqued fasteners with complete safety. It has become the “workhorse” of the aircraft industry, used for quickly removing large turbine fasteners with fingertip control.

The torque wrenches are listed in order of their capacities. When selecting a wrench for a particular application, remember that the breakaway or teardown torque will be larger, usually one and one half times more, than the applied torque. The last number designation in the model number, 43 or 60, designates the center drive configuration. The number 43 denotes an S.A.E. 43 spline (43 teeth) and 60 stands for an S.A.E. 60 spline (32 teeth). You can order all the models as a convenient package consisting of a storage cart, wrench, supply hoses, and the proper power source. The power source can be either an electrical or a pneumatic drive. If you require help in selecting a model for your particular application, contact our engineering department.

Torque wrenches designed and manufactured by Advance Mfg. offer the mechanic **FULL CONTROL** of torque application to fasteners with only fingertip action, this eliminates all the “strong arm” work currently required to operate mechanical type torque multipliers. Advance Mfg. calibrates and certifies our wrenches for an accuracy of within 3% of the wrenches full capacity.

All the pumps (hydraulic power sources) in this catalog are either a pneumatic, or an electric drive. They are all two-stage operation, providing rapid approach, and then automatically switching to a slower more precise control.

### Calibration Stand

Advance Mfg.’s hydraulic wrench calibration test stands have become the standard in the aircraft industry for certifying the accuracy of high torquing wrenches. Calibration test stands can be custom designed for any torque range or required accuracy. Contact our engineering department with your requirements; they will be pleased to quote on your application.

### Torque Systems

Our new computerized torque systems offer the latest in technology for blind torquing of bolts in aircraft engine compressor rotor drums. They are currently in service on many of the latest high thrust jet engines in both military and commercial applications. If you have a blind torquing application requiring precise, documented, torque control, contact our engineering department to discuss your requirements.

## CONSTANT ROTATION

Advance Mfg., the leader in high torque fastening technology, introduces the fastest, most accurate, torque wrench in the industry: the innovative CONSTANT ROTATION system. This system integrates the quick features of mechanical “rundown” with the control and precision of hydraulically actuated torquing.

With the CONSTANT ROTATION system the operator can bottom large fasteners without the use of large input to output mechanical wrenches, which sometimes require 1200:1 ratios and transfer the input inaccuracies to the output by a factor of the mechanical ratios needed to deliver the required torques. The system eliminates the need for large mechanical wrenches that typically have high ratios, costly reduction accessory units and accompanying air drives needed to facilitate speed in “rundown” of the fastener.

With the CONSTANT ROTATION system, large fasteners are quickly bottomed with the use of ordinary mechanics tools, ratche or speed bar wrench, then immediately torqued to final requirements using controlled and precise hydraulic actuation

“State of the art” in high torque technology, the system provides the fastest, most accurate means of applying high torque. Pound for pound, speed for speed, and accuracy for accuracy, no torque wrench in the industry can compare. The CONSTANT ROTATION system is immediately available on all our popular size torque wrenches. Request a demonstration and be impressed!



*Typical Constant Rotation Wrench AH-2043CR*



### **Optional Pneumatic Drive**

The pneumatic drive on all Constant Rotation models can be quickly installed or removed. This drive will cause the wrench to operate at 100 RPM and 60 ft lbs. under no load with the use of only shop air.



## TORQUE WRENCHES

These wrenches represent the low range of our torque capacities. They are easily adapted for use with standard square drive sockets and find wide use in the construction industry.

### MODEL AHP-12 PKG

**Capacity:**

1,200 ft-lbs.

14,400 in-lbs.

**Center Drive:**

3/4" sq.

**Counter Torque:**

2 pins-.50 dia.-3" bolt circle

**Dimensions:\***

Body Height 2-3/4"

Width 6-1/8"

Length 8-3/4"

Weight 15 lbs.

**Power Source:**

System comes fully equipped with 6,000 PSI manually operated pump with 12 feet of hose, pump & controls completely housed for remote and close operation.

\* Applies to wrench only. Complete portable power system weighs 48 lbs. and comes housed in a carrying case with handle, which measures 20" x 17" x 7".

A complete self-contained torquing system; easily adapts to any 3/4" drive sockets eliminating costly tooling.

**Also Available with Digital Readout.**

### MODEL AH-60

**Capacity:**

6,000 ft-lbs.

72,000 in-lbs.

**Center Drive**

1-1/2" sq.

**Counter Torque:**

2 pins- .75 dia. -7" bolt circle

**Dimensions**

Body Height 2-5/16"

Handle Height 5-3/4"

Width 8-1/2"

Length 9-1/8"

Weight 39 lbs

**Power Source**

Air or electrically operated hydraulic pump max 10,000@ 27 CIM. Model AOB-2727. Model AH-P39 hand pump.

### MODEL AH-60CR

Not Shown



AHP-12 Package



AH-60

## TORQUE WRENCHES

### MODEL AH-1043

**Capacity:**

10,000 ft-lbs.  
120,000 in-lbs.

**Center Drive:**

#43 Spline

**Counter Torque:**

2 pins- 1.00 dia. -10.5" bolt circle

**Dimensions:**

Body Height 3-1/4"  
Handle Height 6"  
Width 12"  
Length 13"  
Weight 65 lbs.

**Power Source**

Air or electrically operated hydraulic pump max.  
10,000 PSI @ 40 CIM. Model AOB-2740.  
Model AH-P39 hand pump.

### MODEL AH-1043TC

Not Shown

### MODEL AH-1060

**Capacity:**

10,000 ft-lbs.  
120,000 in-lbs.

**Center Drive**

#60 Spline

**Counter Torque:**

2 pins- 1.00 dia. -10.5" bolt circle

**Dimensions**

Body Height 5-1/4"  
Handle Height 6"  
Width 12"  
Length 13"  
Weight 77 lbs.

**Power Source**

Air or electrically operated hydraulic pump max.  
10,000 PSI @40 CIM. Model AOB-2740.  
Model AH-P39 hand pump.

Not Shown

### MODEL AH-1043CR

**Capacity:**

10,000 ft-lbs.  
120,000 in-lbs.

**Center Drive**

43 Spline

**Counter Torque:**

2 pins- 1.00 dia. -10.5" bolt circle

**Dimensions:**

Body Height 4-1/4"  
Handle Height 7"  
Width 12"  
Length 13"  
Weight 72 lbs.

**Power Source:**

Air or electrically operated hydraulic pump max.  
10,000 PSI @40 CIM. Model AOB-2740.  
Model AH-P39 hand pump.

Not Shown

### MODEL AH-1043TCR

Top Counter Torque Available  
with Constant Rotation

Not Shown



AH-1043 Digital

## TORQUE WRENCHES



### MODEL AH-2043CR\*

**Capacity:**

20,000 ft-lbs.

240,000 in-lbs.

**Center Drive:**

#43 Spline

**Counter Torque:**

2 Pins-1.00 dia.-10.5" bolt circle

**Dimensions:**

Body Height 3-3/4"

Handle Height 7"

Width 13"

Length 14-1/2"

Weight 100 lbs.

**Power Source:**

Air or electrically operated hydraulic pump max.  
10,000 PSI @ 40 CIM. Model AOB-2740.

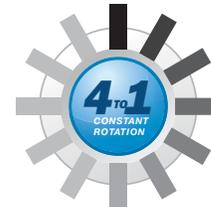
Constant Rotation has 4 to 1 mechanical ratio.

### MODEL AH-2043TCR \*

**Top Counter Torque Available with  
Constant Rotation**

Not Shown

\*Available with Digital Readout



The workhorse and favorite of the aircraft industry has now become the fastest and safest in the industry.

For a demonstration of any of our constant rotation systems, contact us today.

The AH-2060 wrench package outlined here is primarily used for jet engine assemblies that require adaption to counter torque tooling using four slots or two keys such as, the P.W.A. JT8 and JT3 engine

### MODEL AH-2060

**Capacity:**

20,000 ft-lbs.

240,000 in-lbs.

**Center Drive:**

#60 Spline

**Counter Torque:**

4 Slots

2 Keys

**Dimensions:**

Body Height 5-3/4"

Handle Height 9"

Width 13"

Length 14-1/2"

Weight 112 lbs.

**Power Source:**

Air or electrically operated hydraulic pump max.  
10,000 PSI @ 40 CIM. Model AOB-2740.

### MODEL AH-2060TCR

**Top Counter Torque Available with  
Constant Rotation**

Not Shown

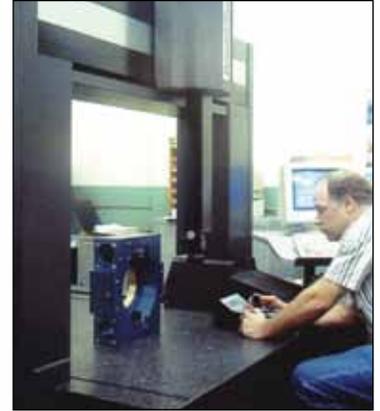


## TORQUE WRENCHES

Another innovation from the leader in high torque is the model

**AH-2543TCR** hydraulic wrench. This model is the system of the future, satisfying both bottom and top-torquing tooling applications.

With its high torque range and accuracy, the AH-2543TCR will satisfy both assembly, and removal requirements of fasteners. A true full feature wrench, this eliminates the need for many mechanical torque wrenches to accomplish the same fastener requirements. Also available in the CONSTANT ROTATION version, it has already found wide acceptance in the industry.



In-house computerized inspection



AH-2543TCR



## TORQUE WRENCHES

### MODEL AH-2543TCR\*

**Capacity:**

30,000 ft-lbs.  
360,000 in-lbs.

**Center Drive:**

#43 Spline

**Counter Torque:**

2 pins-1.00 dia. -10.5" bolt circle

**Dimensions:**

Body Height 7-3/4"  
Handle Height 11-1/4"  
Width 14"  
Length 14"  
Weight 182 lbs.

**Power Source:**

Air or electrically operated hydraulic pump  
max. 10,000 PSI @ 40 CIM. Model AOB-2740.  
\*4-1 mechanical ratio



AH-2543TCR Electrical Package



AH-2543TCR Air Package

### MODEL AH-2560TCR

**Capacity:**

30,000 ft-lbs.  
360,000 in-lbs.

**Center Drive:**

#60 Spline

**Counter Torque:**

4 Slots  
2 Keys

**Dimensions:**

Body Height 5-3/4"  
Handle Height 9-1/4"  
Width 14"  
Length 14"  
Weight 170 lbs.

**Power Source:**

Air or electrically operated hydraulic pump  
max. 10,000 PSI @ 40 CIM. Model AOB-2740.  
*Not Shown*

## TORQUE WRENCHES

Model AHX-T550 is the “workhorse” of the industry. This model is strictly a tear-down hydraulic wrench which removes any fastener quickly and safely. Because of its flat-faced configuration, it easily adapts to any tooling application. It will torque in either direction by simply reversing the wrench.



### MODEL AHX-T550

**Capacity:**

80,000 ft-lbs.

960,000 in-lbs.

**Center Drive:**

#43 Spline

**Counter Torque:**

2 pins-1.00 dia. -15.25" bolt circle

BOTH FACES

**Dimensions:**

Body Height 5-1/2"

Width 18-1/2"

Length 20"

Weight 325 lbs

**Power Source:**

Air or electrically operated hydraulic pump  
max. 10,000 PSI @ 55 CIM. Model AOB-2655.



*AHX-T550 Package*

## TORQUE WRENCHES

This is the largest capacity wrench in Advance Mfg. Co., Inc.'s line. The AHX-500 is used world-wide by jet engine overhaul and maintenance depots and has become the standard in the industry. Always used, never duplicated.

### MODEL AHX-500

#### Capacity:

83,000 ft.-lbs.  
1,000,000 in.-lbs.

#### Center Drive:

#90 Spline

#### Counter Torque:

4 Slot -1.50" wide -16.00" bolt circle

#### Dimensions:

Body Height 6-3/4"  
Handle Height 13"  
Center to Corner 13-3/4" R  
Center To Flat 10-1/4"  
Weight 650 lbs.

#### Power Source:

Air or electrically operated hydraulic pump  
max.10,000 PSI @ 55 CIM. Model AOB-2655.



AHX-500



Calibration traceable to NIST on all models.



AHX-500 Package

## 2-STAGE HYDRAULIC PUMP

The AOB-2740 and AOB-2655 are high pressure hydraulic power pumps. They are easy to operate, lightweight, portable and completely dependable. The two-stage construction allows rapid speed at low pressure and slow speed at high pressure. This unique feature guarantees complete and safe control over all torquing applications. These pumps also have a flow control valve that permits the operator to shut the motor down, then restart it with the applied torque held at any pressure up to 10,000 psi. Mounted externally on the pump, this valve allows manual adjustment of the output capacity. A safety relief valve with a limit of 10,000 psi protects the complete pumping unit.



Typical Pneumatic Power Supply Package

### MODEL AOB-2740 Electric\*

**Pumping Capacity:**

40 CIM at 10,000 psi

**Height:**

21"

**Base:**

8" x 6.25"

**Weight:**

99 lbs.

**Power Source:**

1 H.P. (Customer to specify voltage and Hz)

Recommended for use on torque wrench models AH-60, AH-1043, AH-1060, AH-2043, AH-2060, AH-2543TCR and AH-2560.



Typical Electric Hydraulic Power Supply

### MODEL AOB-2655\*

**Pumping Capacity:**

55 CIM at 10,000 psi

**Height:**

22"

**Base:**

8" x 6.25"

**Weight:**

104 lbs.

**Power Source:**

1.5 H.P. (Customer to specify voltage and Hz)

Recommended for use on torque wrench models AHX-T550, AHX-500.

**\* Both model hydraulic pumps can be supplied with a pneumatic drive source.**



CE Packages Available for All Models

## CALIBRATION TEST STAND

Advance Mfg. Co., Inc. designed the model **TS 4000U** calibration stand to calibrate torque wrenches in use by the aircraft industry for engine build or overhaul. It uses a (*force multiplied by distance*) principle.

The TS 4000U has its own hydraulic power supply incorporated on to the stand to facilitate wrench calibration. The operator mounts the wrench onto a spline adapter and engages the anti-torque features with the reaction slots or holes on the stand. The hydraulic lines from the stand to the wrench are then connected. The wrench torque gauges, are then repositioned to the vertical position for access to the Bourdon tube adjustment and "zero" set adjustment. With the hydraulic power supply switched to the "on" position, the operator can apply a torque of any amount by adjusting the stand's hydraulic throttling valve. A compression cell at the end of a two-foot moment arm measures the reaction and displays the result on an illuminated digital readout. Operator can then calibrate the wrench by comparing wrench dial readings with the digital readout, making any adjustments accordingly. The stand includes a permanent master calibration hydraulic gauge to measure the input pressure. From these two readings, a calibration report can be compiled with the parameters of input pressure and output torque for clockwise and counter clockwise rotation. Detailed calibration instructions are contained in the wrench manuals "HT-14" or "HT-90" rev A.

### **CALIBRATION ARM:**

Finest alloy steel casting mounted on ball bearings, to prevent frictional drag, with two 24-inch moment arms.

### **Hydraulics:**

Fully equipped with a 10,000 psi and 27 CIM displacement, regulated, power supply.

### **PRESSURE GAUGE:**

Laboratory type test gauge; accuracy 1/4 of 1% of scale range and certified.

### **Load cells:**

Compression Type. Two supplied with each stand, having the following characteristics:

**Overload:** 50% over capacity

**Compensated temperature range:**

40° F to 120° F.

**Effect of temperature on zero:**

.002% of full scale per degree Fahrenheit

### **Effect of temperature on output:**

.002% of reading per degree Fahrenheit

**Non-linearity:** 15% of rated capacity.

### **Indicator:**

Illuminated strain gauge type with the following characteristics: scale selection 40,000 ft. lbs. with 20 ft. lbs. increments.

**Zero adjustments:** Adjustment + 15%.

Two provided for plus and minus signals.

**Linearity:** 15% of full scale.

**Repeatability:** .005% of full scale.

**Refresh Time:** 2000 Hz update rate

### **PHYSICALS:**

56"W x 35 x 30"L

Occupies: 11 sq. ft.

Weight: 2,800 lbs.

**ELECTRICS:** Voltage and Hz set to

customers requirements



TS-4000U

U.S. Patent No. 2,748,026

## TORQUE SYSTEMS

Since 1987, Advance Mfg. Co., Inc. Computerized Torquing systems have provided the ultimate *turnkey* solution to torque hidden compressor rotor bolts in aircraft engines.

They guarantee compliance to engine build specifications and provide full build documentation.

*The software manages the process completely, which eliminates the need for a dedicated quality person to validate the process steps typically required for torquing hidden fasteners.*

The system is designed to meet particular requirements set forth by engineers and process planners: to achieve an effective tool for creating a bolted joint having consistent clamp characteristics, thus greatly reducing engine vibration.

Consisting of logically stored tooling modules that adapt to the compressor rotor assemblies, a computer driven Data Acquisition Center, and a tool storage console, the system also includes a remote calibration stand to determine the mechanical efficiency of the wrench system and to confirm the accuracy and repeatability of the nut angle encoder.

The system is software driven and is completely self-contained. The software enhances the system by providing the operator with on line instructions and process-related illustrations for the following tasks:

1. Tool Installation
2. Tool Removal
3. Nut Installation
4. Calibration
5. Engine Requirements
6. Torquing Program
7. Nut Removal
8. Engine Disassembly



*Typical Tooling/Compressor Adaptor*

*U.S. Patent #4,926,699 and other process and design patents.*

## TORQUE SYSTEMS

If the engine's build procedures change, the displayed instructions can be edited for process clarification, or for adding associated illustrations.

The software also provides a tooling calibration procedure, that presents the responsible calibration authority with menu-driven requirements for the entire tool calibration. The calibration program is password protected to prevent unauthorized entry. The torque program checks the stored calibration results and time constraints from the last calibration. Only after successfully meeting these calibration requirements will the program allow entry into the engine build program. The computer will routinely check the time interval until the next calibration and will prompt the operator for re-calibration when this time interval reaches zero. The calibration interval can be increased or decreased via the software to address a change in production quota or build rates. The torque program will be inoperable if calibration is determined to be past its due date.

The system provides complete monitoring for assembly and teardown torque requirements during the torque program. Upon request, the system can provide an actual run time printing of all process events, parameters, or tabular and graphics presentations.

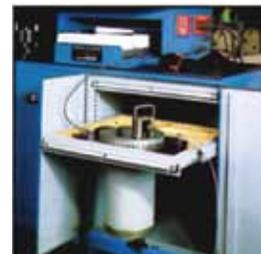
The computer stores completed engine build data that can be recalled at anytime. Additionally, build data can be imported from numerous engines into Microsoft Excel® for further evaluation or for statistical process control.



*6 Stage Remote Tooling Module*



*Remote System Calibration Stand*



*12-Stage Tooling Module*



*Tooling Storage Console*



*Logically Stored Tooling Positioned for Easy Access*

## TORQUE SYSTEMS

In the event of a power failure, program "retry" will allow the user to recommence the build process at the previous recorded process. No data will be lost.

Coupled with the mechanical tooling, the AMD-109 Data Acquisition Center (DAC) is a real time recipient of analog/digital data transmitted by transducers and sensors located on the tooling. The DAC and computer can work together to create a *multitasking platform*, where the DAC's chief concern is processing analog data, and the computer's chief concern is monitoring events. If a process violation occurs, the computer will signal the DAC to change its visual screen to alert the user of the violation and to confirm corrective actions. Native graphics screens stored in eeprom allow the user to visually identify the current process in digital form along with the required limits. If a process goes beyond the specified limits, a near instantaneous display of a warning screen will alert the user.

The DAC will receive the real time data and convert it to proper engineering units before displaying it on the user's screen. The engineering units, established by the engine manufacturer, are not changeable as they are *hardwired* into the software. All software is custom written and adapted to the engine manufacturer's specific needs. All manufacturers have methodically tested the Data Acquisition Center and have endorsed for production and overhaul use.

The DAC is responsible for displaying the following process parameters:

- Installation Torque
- Prevailing Torque
- Initial Torque
- Seating Torque
- Angle (Nut Rotation)
- Current Bolt Location

The Industrial Computer is responsible for doing such tasks as serial/parallel print services and event (process) monitoring. For *simplicity* and *rock solid* dependability, a DOS operating system is used.



Typical Calibration Stand

There are no requirements to know a Windows® based OS or obtain third party software drivers.

The computer displays the text in "mode 40" format to assist the user in seeing and comprehending from a distance. This format also ensures compatibility with our older systems throughout the world. The customer receives a copy of the software for archiving or, if necessary, for reloading the system via the floppy drive.



Complete Torque System

Custom designed to address the need to torque hidden nuts in compressor assemblies tooling is also logically stored in a roll around cabinet, allowing it to be moved to other areas on the build floor.

### The tooling has 3 main functions.

1. Transmit a known input torque, via manual means, to the fastener. A torque transducer measures the applied input torque. By multiplying the value for applied input by the value for the mechanical efficiency, established at calibration, the operator can obtain a good, approximate output torque.
2. Angle of turn or nut angle is the most important parameter supplied by the tooling. This parameter contributes up to 90% of the clamp load required and is generally the preferred method used by the engine manufacturer.
3. Bolt Location. The tooling will continuously transmit its bolt location in relation to the #1 start position. This position is crucial for the success of the build session because it will not allow the operator to skip or miss a bolt. The software will dictate the bolting sequence and will demand conformation at all times.

The system has been approved for the following engines.

- ✓ All PW4000 series engines
- ✓ All PW2000 series engines
- ✓ All GP7200 series engines
- ✓ All GE90 series engines
- ✓ All GE CF6-80 and CF6-50 engine
- ✓ All GE LM series engines

At Advance Mfg., Co., Inc., our goal is quality customer satisfaction, and excellence in all we do. We will always provide telephone/ email support at no charge to our customers. We are an AS9100B Certified company.

### SPECIFICATIONS:

**Torque Transducer Accuracy:** .25% of Full Scale. Temperature Compensated.

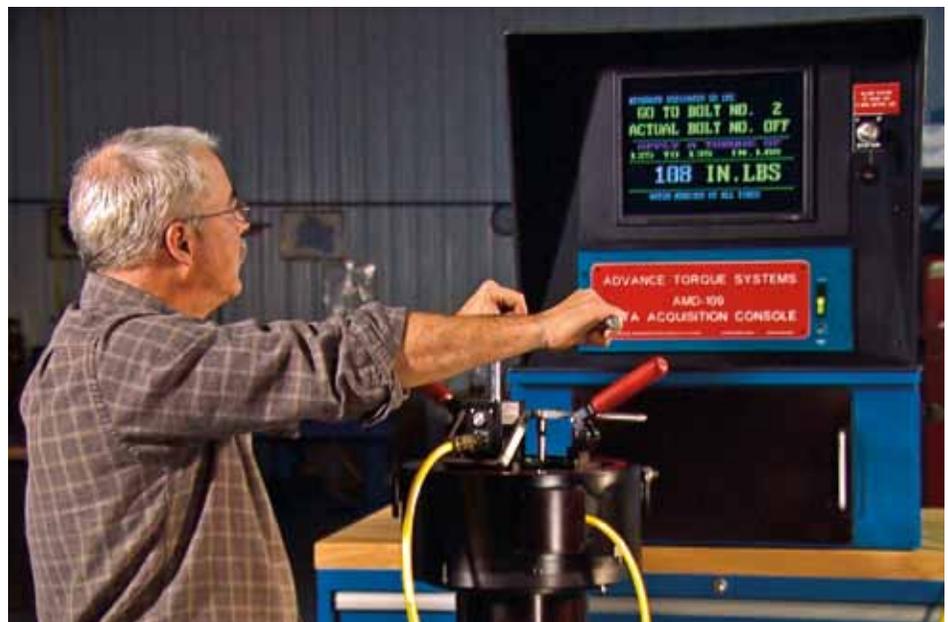
**Angle Encoder (Quadrature Encoder):** .25 degree direct couple. +/- 1 degree using software torsion correction.

**Allowable Average Gearbox Efficiency Range:** 45% - 90%.

**Typical Gearbox Efficiency Scatter @ 1 Standard Deviation:** < 5%.

**Average Gearbox Efficiency**

**Repeatability:** +/- 3% Typical



Typical User Screen

## PRECISION MACHINING SPECIALISTS

For over 50 years, Advance Mfg. Co., Inc. has been one of the premiere manufacturers of complex and simple parts in the country and a significant, world-class competitor. From precision machining to welded fabrication to final assembly, our family-owned business has focused on quality, customer satisfaction, and excellence.



The Amanti family, from left to right: Margie, Mark, Tony, Dave, Bill, and grandson, Jeff

Throughout each process, we maintain close attention to the project to ensure total accuracy and top-notch results. Our state-of-the-art, high-speed machining centers offer twin spindles, 4th and 5th axis capabilities, multiple pallets, and probing; our custom tooling increases efficiency and provides exacting results, even within the closest tolerances.

The industries we work with include:

- Power Generation
- Aerospace
- Semiconductors
- Military



NASA - Space Shuttle

*No matter how complex or intricate the part, for use from the depths of the ocean to the far reaches of outer space, Advance Mfg. Co., Inc. focuses on quality, customer satisfaction, and excellence beginning with the first stage of the project.*

Because we serve a global marketplace, we can also help fulfill related requirements, including the tools and resources to meet even the most complicated needs.



Kuraki Machine



No job is too small or too large...

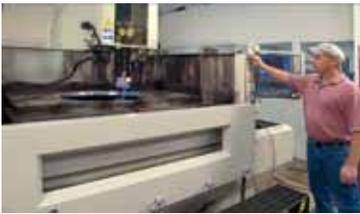
In a joint 6-Sigma Black Belt event, Advance worked with General Electric to develop a 7,500 square foot, state of the art, dedicated work cell where entire families of parts can be manufactured in one location. These cells let us achieve total customer needs including critical cost goals and delivery requirements.



Work Cell

## MACHINING • WELDED FABRICATION • ASSEMBLIES

Advance houses conventional and wire cutting machines, including one of the largest cutting machines with a maximum capacity of 47"x 31"x 15".



EDM

For aerospace, commercial industries, and the U.S Defense Department, Advance is certified for MIG and TIG welding and fabrication. Additionally, we have a Plasma-Stellite machine which can hard-face parts for power generation and other industries.



Plasma-Stellite Machine

Our in house capabilities such as assembly, outside processes, and shipping allow us to guarantee quality service throughout the entire process. To present exceptional manufacturing in our facility, we have multiple Satellite Inspection Stations that enable in-process inspection. This ensures that all specifications are met with results that are on point.



Vacuum Pump Assembly



Inspection Stations

*Our services include:*

*Jig Boring*

*Lapping and Grinding*

*OD/ID Grinding*

*Boring Mills*

*Vertical Milling*

*CNC Milling*

*Lathes*

*Vertical Turret Lathes*

*Manufacturing Cells*

*EDM*

*Honing*

*De-Burring & Aqueous Cleaning*

*Water Jet*

*Welding and Fabrication*

*Induction Heat Treating*

*Non-Destructive Testing*

*Inspection*

*Assembly*

*Outside Processes*

*Shipping*

With a foundation built on quality work, we are committed to maintain our reputation for excellence. For more information on our machining capabilities, please contact us for our current catalogue or to set up a meeting with a sales associate.

### Winning Gold on the Worldwide Sports Stage

Advance Mfg. Co., Inc. machined the runners for the sled used by the United States 4-Man Bobsled Team at the 2010 Olympic Games.

Team members and officials credited the precision machining of those runners as instrumental in helping the team bring home the gold medal for the first time since 1948.



**"WE PLEDGE OUR TOTAL COMMITMENT TO QUALITY,  
CUSTOMER SATISFACTION, AND EXCELLENCE. ANYTHING LESS IS UNACCEPTABLE".**

-Tony Amanti, 1961



Tony E. Amanti founded Advance Mfg. Co., Inc. in 1961. Since that time the company has become firmly established as a leading manufacturer of mechanical and electro-mechanical precision machined components and assemblies.

Located in an area of New England that has long been recognized for its knowledge and expertise in the field of machining, Advance has gathered an outstanding team of highly skilled and professionally trained craftsmen, which has resulted in the company's strong, steady growth.

Over the years, our periodic additions and renovations to the facilities have served to increase capacity and to improve quality. Consequently, Advance has become one of the premier, precision machining companies in the area, occupying over 120,000 sq. ft. of plant space today, and representing the most advanced facility of its kind in the Connecticut Valley. Utilizing the latest in computer numerically controlled machining, the company is well equipped to handle both limited quantity and production quantity requirements.

With a quality control system that meets all AS9100 standards, and a variety of customers, that includes General Electric, Raytheon, Texas Instruments, Pratt & Whitney, Honeywell, BAE, General Dynamics, Electric Boat, Northrop Grumman, and Nash, Advance is proud to offer prompt delivery of precision quality components. For superior quality work at a fair and competitive price, contact the sales department and request a quote.



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