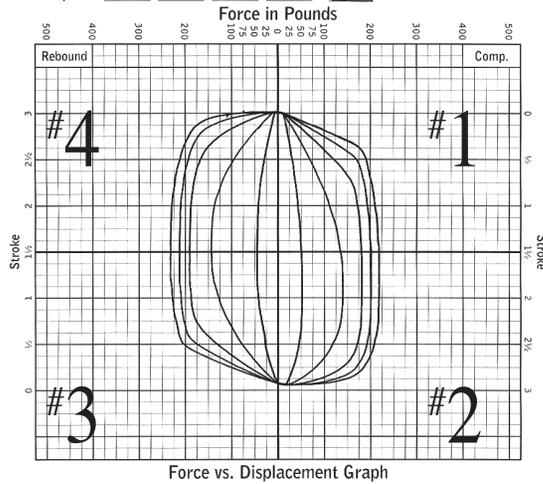


## UNDERSTANDING THE GRAPH

Shock: 555 Gas Force Remover Date: 8-15-04

Test Speeds: 2.0 4.0 6.0 8.0 10.0 - In Per Sec.



### AREA #1 - COMPRESSION OPEN

In this area, the shock accelerates from a stop to the speed in inches per second selected. This is the area you will see the nose pressure of the shock for the compression stroke.

### AREA #2 - COMPRESSION CLOSED

This area shows maximum force of the compression cycle. As it goes through this area, the shock slows to a stop to begin the rebound cycle.

### AREA #3 - REBOUND OPEN

In this area, the shock accelerates from a stop to the speed in inches per second selected. This is the area you will see the nose pressure of the shock for the rebound stroke.

### AREA #4 - REBOUND CLOSED

This area shows maximum force of the rebound cycle. As it goes through this area, it slows to a stop to begin the compression.

\* The graph shown is a degressive valved shock. The inside circular line shown is 2" per sec., then 4", 6", 8", with the outside circular line shown being 10" per sec.

\* On this graph you see the nose pressure of this shock increases with speed. You also see what makes this a degressive shock. Note the difference in pressure increase between 2" and 4" per sec. Compare it to the pressure increase between 8" and 10" per sec. You see that there is an increase of pressure at higher speeds but not nearly as much as at lower speeds.

\* On linear valved shocks you will usually see the nose pressure appear rounded on the graph and the maximum pressure increases equally with speed.

## ADDITIONAL GRAPH PADS:

\* Additional graph pads may be purchased from your dealer or directly from Accu-Force Shock Dynos, Ltd.

## CARE AND MAINTENANCE

- \* You will find this unit virtually maintenance free.
- \* Try to not get the unit wet.
- \* Clean with normal cleaners.
- \* It is advisable to place a small amount of lubricant periodically on the guide rods where they pass through the brass bushings.

## TRANSPORTING YOUR SHOCK DYNO

By transporting the unit in one of the following two positions, you should have no problems with the unit.

- \* You can transport the unit secured in the upright position.
- \* You can also transport the unit laying down on its backside.

## TROUBLE SHOOTING

### The Unit Powers Up But Will Not Operate

- \* You cannot immediately use the start button after powering the unit on. You should wait at least 15 seconds after powering the unit on before trying to start a test.
- \* If the unit will not function, it may have defaulted. Most of the time, you can reset the unit by simply turning the start/stop switch to stop and powering the unit off. Leave the unit powered off for approximately one minute. Then power the unit up but do not try to do a test for at least one minute after re-powering. This will usually reset the unit.
- \* Check the emergency stop. It is a twist lock stop. You must twist it to release it.

Check website for updated trouble shooting tips or call Accu-Force Shock Dynos.

# Accu-Force Shock Dyno

## INSTRUCTION MANUAL



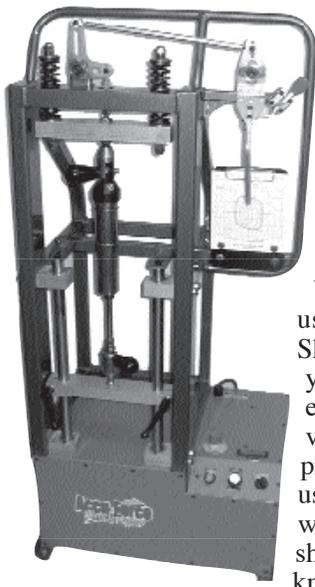
### Accu-Force Shock Dynos Ltd.

7358 County Road 623 • Millersburg, Ohio 44654

Phone: 330-674-2847

[www.accuforcetesters.com](http://www.accuforcetesters.com)

Please read this manual prior to using your Accu-Force Shock Dyno to ensure safe operation of your unit. This product is designed to be used only by sophisticated users, properly trained in its operation. Use by any other user may result in bodily injury or damage to the product. By its purchase of this product, buyer represents that it is such a sophisticated user, will limit further use to such users, and will obtain for itself and provide to other permitted users, the proper training in its operation. Buyer and all users agree to indemnify and hold harmless Accu-Force from any and all claims, demands, or causes of action made against Accu-Force by a person, agency or entity arising out of any or incident to any use, alteration or modification of this equipment sold herein in violation of any Federal, State or Local health or safety laws or regulations, or standard of health or safety promulgated by an agency, organization or society, or in contravention of any representations made herein. Any or all disputes shall be construed in accordance with the laws of the State of Ohio and venue shall lie with the Court of Common Pleas of Holmes County, Ohio.



Thank you for purchasing the Accu-Force Shock Dyno. Whether you purchased our standard 650# model or our Hi-Torque 1,500# model, we feel you have purchased the best dyno, dollar for dollar, on the market.

We are sure that after using the Accu-Force Shock Dyno a few times, you will find the controls easy to use and the graphs very useful to your shock program. The more you use this tool, and if possible with a variety of different shock brands, the more knowledgeable you will become. You will find there

is no right or wrong – there are only differences when comparing shock brands. With this tool, you will now know what you have!

## SAFETY

Failure to follow safety precautions could result in bodily injury!

- \* Only qualified authorized persons should operate this unit.
- \* Keep hands, fingers, and clothing clear of moving parts.
- \* Do not operate in wet conditions.
- \* High voltage may exist even with the unit turned off.
- \* Only qualified persons should attempt repairs of the unit.

## POWERING THE UNIT

- \* We produce two models of our shock dyno and it is important for you to know which model you are using.  
**Standard 650# Dyno** – This unit is to be plugged into a grounded 20 amp 115 volt power supply.  
**Hi-Torque 1,500# Dyno** – This unit is to be plugged into a single phase, 3 wire, 20 amp, 230 volt power supply.
- \* Care must be taken if used with a generator. You must be sure the unit is powered off before starting or stopping your generator.

## OPERATION OF UNIT

### Installing a Shock on the Unit

- \* Fully extend the shock before installation.
- \* Loosen bottom clevis and install shock on bottom clevis.
- \* With shock fully extended, adjust bottom cross-mount so that the top shock bearing is approximately 2" above the top clevis hole. Lock the cross-mount in this position.
- \* Collapse the shock and install the shock into the top clevis.
- \* Be sure there is at least 3" of shaft extended out of the shock at this point.
- \* The final step is to tighten the clevises so the shock ends tighten against the brass pin located in the clevis. Doing this properly will take the play out of the shock ends.
- \* Hi-Torque Unit has two positions on the pen pivot – top position is high pressure reading; bottom position is the low pressure reading.

## USING THE CONTROLS

- \* The red switch is what powers the unit on and off.
- \* You do not have to turn the unit off after testing each shock, however be sure to turn it off when you are finished with your complete test session.
- \* The speed control knob controls the speed from 0" to 12.5" per second by rotating the knob clockwise.
- \* The stop/start switch activates the unit.
- \* When you are ready to start a test, switch the knob to start.
- \* You are now able to control the shock speed using the speed control knob.
- \* By reading the meter on the control panel, set the dyno for the desired test speed.
- \* You will be able to chart the shock at as many speeds as desired on one graph.
- \* When turning the stop/start switch to the stop position, the shock will return to bottom dead center. This will happen even if you had stopped the shock by turning the speed control to 0" per sec.
- \* Emergency Stop – Push to stop the test. Use only in emergencies!
- \* You must twist the knob to release and reactivate unit.
- \* You must also set the stop/start switch to stop after using the Emergency Stop button.



## PEN ACTUATOR

- \* Until you have chosen a desired speed and are ready to plot a graph, have the pen actuator in the out position to keep the pen from touching the graph paper.
- \* When the desired speed is obtained, lock the pen actuator in the in position to plot your graph.
- \* You will find it only takes a couple revolutions to plot the graph.
- \* Prior to choosing another speed, release the pen actuator.
- \* When the pen runs out of ink, it can be replaced by using the cartridge from a BIC stick.

## GRAPH

### Centering the Graph

- \* For twin tube shocks or testing gas pressured shocks without removing the gas force from the graph, simply run the dyno without a shock at 1" per sec., loosen the slotted clipboard mount bolts, and adjust graph so it is running with zero force. Tighten bolts.
- \* To remove the gas force from the graph on gas pressured shocks, install the shock, have gas pressure of the shock set to desired pressure, run shock at 1" per sec. Adjust graph to zero force at top and bottom of stroke using the slotted clipboard mounts. You will find the graph to be slightly tilted to compensate for the gas pressure.
- \* It is a Force vs. Displacement graph. This means you are accelerating the shock from zero to the desired speed and back to zero on the compression stroke and the rebound stroke.
- \* From the graph, you can see the maximum pressure the shock produced at a given speed and how far it traveled to obtain the maximum pressure.