



PRO-MOD / PRO-STOCK rear setups for MagneShock DRAG system

Following are some damping settings (called “valvings” in conventional shocks) for Pro-Mod & Pro-Stocks.

Basically, each race uses FIVE (5) different valvings.

Selecting RACE-1 (or RACE-2) will give different SETUPS during the actual race:

- Setup #0: Used for BURNOUTS only.
- Setup #1 (#4): Used at LAUNCH in the race. When it gets the “Launch Signal” its timer starts & then it shifts to Setup #2 (#4 goes to #5).
- Setup #2 (#5): Used at MID-TRACK in a race. It runs off its timer & then shifts to Setup #3 (#5 goes to #6).
- Setup #3 (#6): Used DOWN-TRACK, at highest speed, till the end of a race. When it gets a “Chute-Pulled Signal” it shifts to Setup #7.
- Setup #7: Used for SHUT-DOWN (during deceleration) only. It stays in #7 until you reset the Selector switch.

Setup criteria:

- BURNOUTS: Frankly, we are not sure what will be best yet. We guess very stiff damping will be the most predictable & stable.
- LAUNCH: Very, very stiff Rebound damping & Soft Compression damping are used by most cars.
- MID-TRACK: A bit less Rebound will allow the tires to better follow the track as speed increases. At the same time, a bit more Compression will probably help keep the tires planted.
- DOWN-TRACK: Much less Rebound & more Compression is required to allow the tires to follow the track at high speeds.
- SHUT-DOWN: Again, we are not sure what settings will be optimal yet but more Rebound & Compression damping will surely give MAXIMUM STABILITY during deceleration. This is especially important when the chute opens and/or during an abrupt steering correction.

NOTES:

Setups #2, #3 & #4 are called if the Selector switch is set on RACE-1.

As an alternative, selecting RACE-2 will call Setups #4, #5 & #6.

RACE-2 allows you to pre-program for different track conditions (like a different lane, anticipated loss of traction or a bump in one lane) and can “save the day” by giving you the ability to make a “last-second decision” on what shock settings to run.

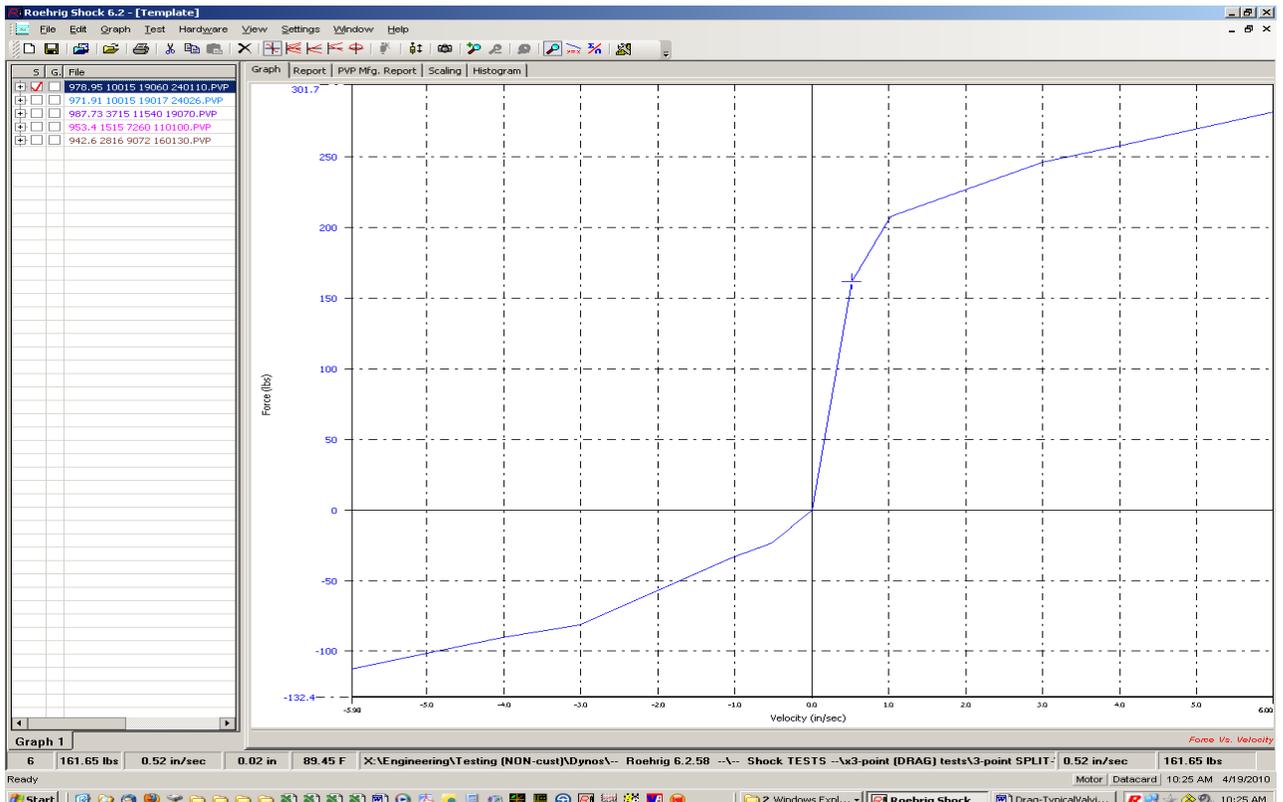
Setups #3 & #6 also have their timers, which serve as a sort of “safety”.

The controller goes to Setup #7 (SHUT-DOWN) from #3 or #6 when it gets a “Chute-Pulled” signal OR when it times-out – whichever comes first. You may want to set the #3 & #6 timers to a few hundredths of a second after you expect to cross the finish line so you will get the SHUT-DOWN damping (Setup #7) even if you don’t pull the chute.

All the following are STARTING POINTS. We have not yet worked out the best settings & each car will be different.

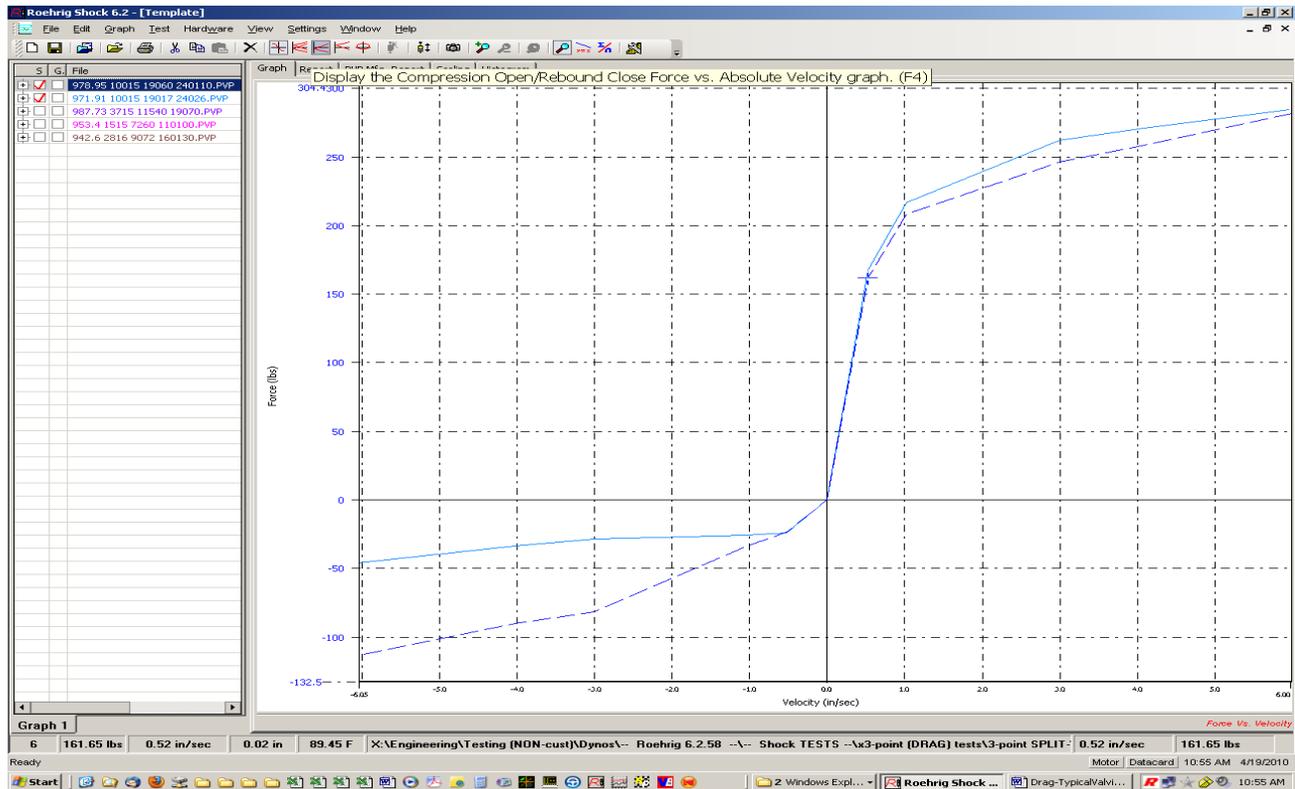
BURNOUT:

We have chosen a “9/5” valving (Dark Blue trace), which has very stiff Rebound & medium Compression – thinking that we don’t want Any significant suspension movement during Burnout.



LAUNCH:

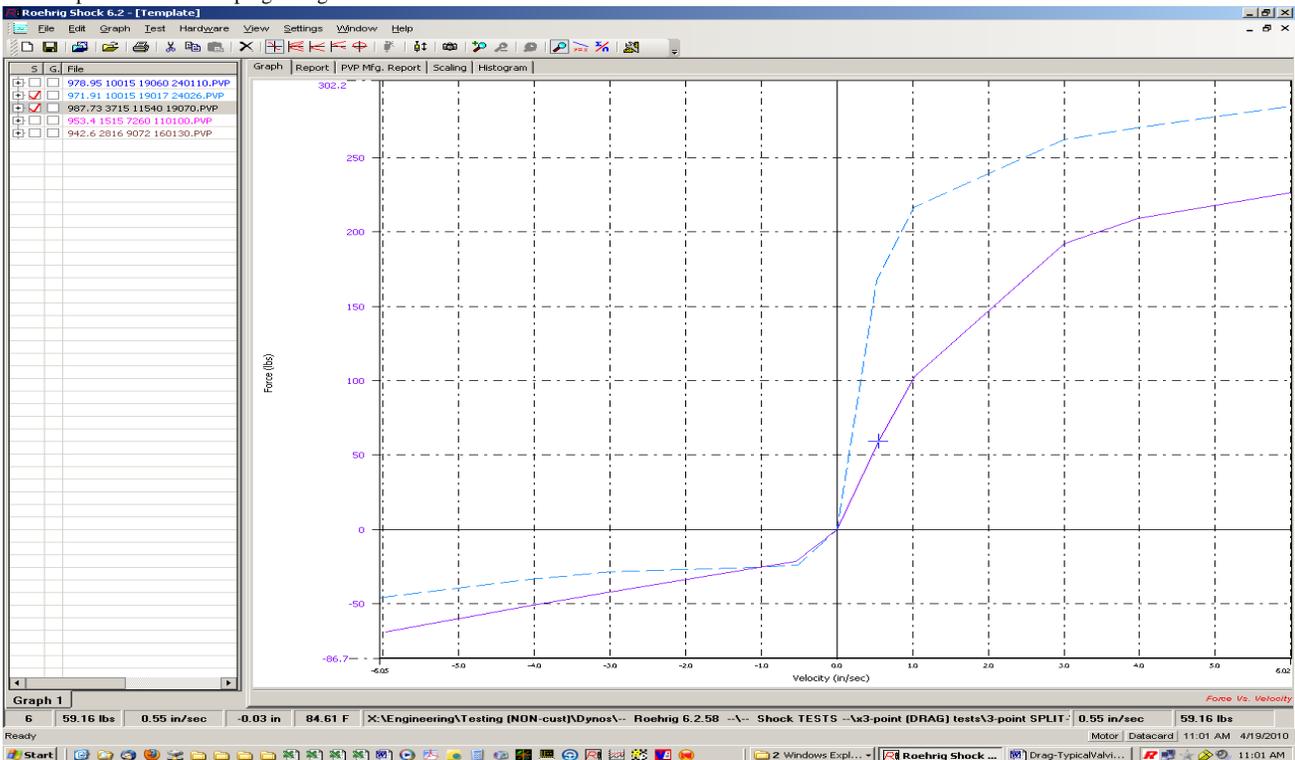
We have chosen a "9/1" valving (Light Blue trace), which also has very stiff Rebound but very soft Compression, as most cars use. For comparison of the damping change - here we show BURNOUT as a dotted line & LAUNCH as a solid line.



MID-TRACK:

We have chosen a "7/3" valving (Violet trace), which has a bit less Rebound (this will better allow the tire to follow the track as speed is increasing) and a bit more Compression (to minimize the upward inertia effects of any bumps or track irregularities).

For comparison of the damping change - here we show the LAUNCH in a dotted line & MID-TRACK in a solid line.

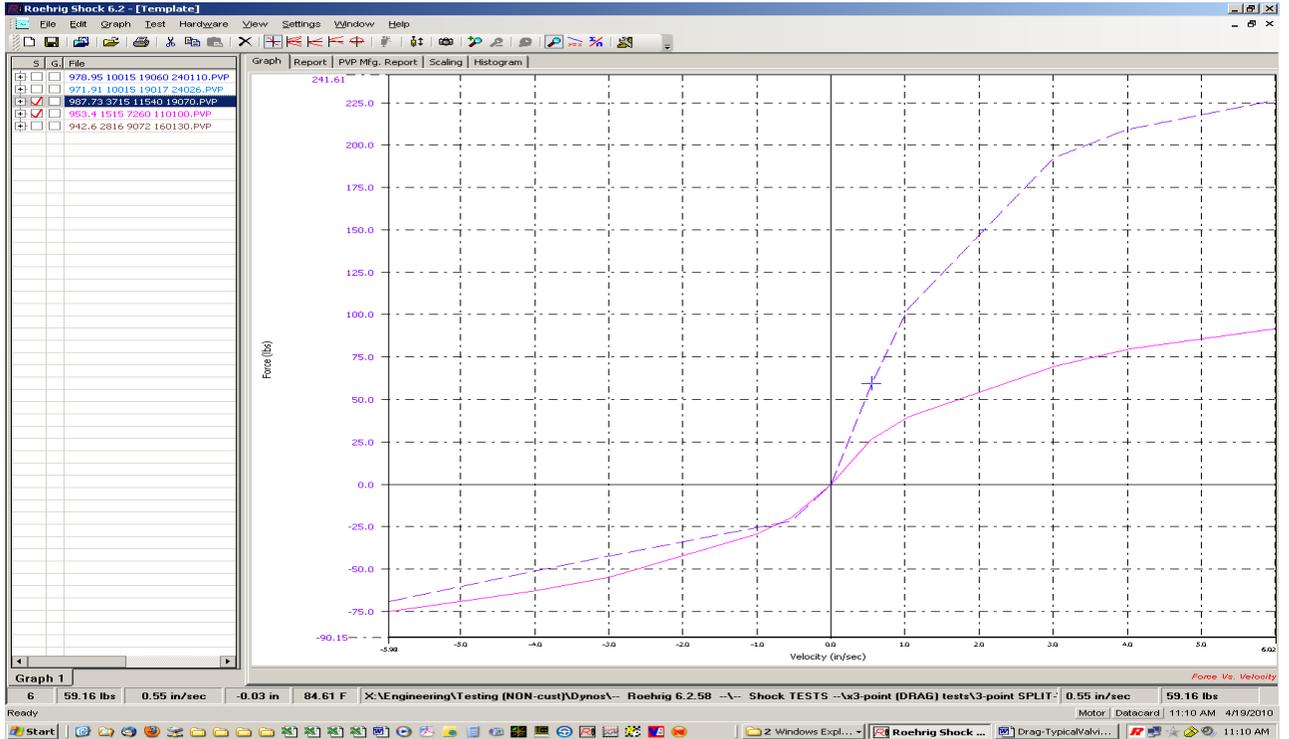




DOWN-TRACK (highest speed – end of Race):

We have chosen a “4” valving (Fuchsia trace), which has medium-soft Rebound & Compression, which allows the tires to follow the track at high speeds without “motoring” (if the Rebound is too stiff the shock doesn’t allow the tire to follow the backside of bumps or drop into track irregularities – if the Compression is too soft inertia allows the tire to go up & leave the track on bumps).

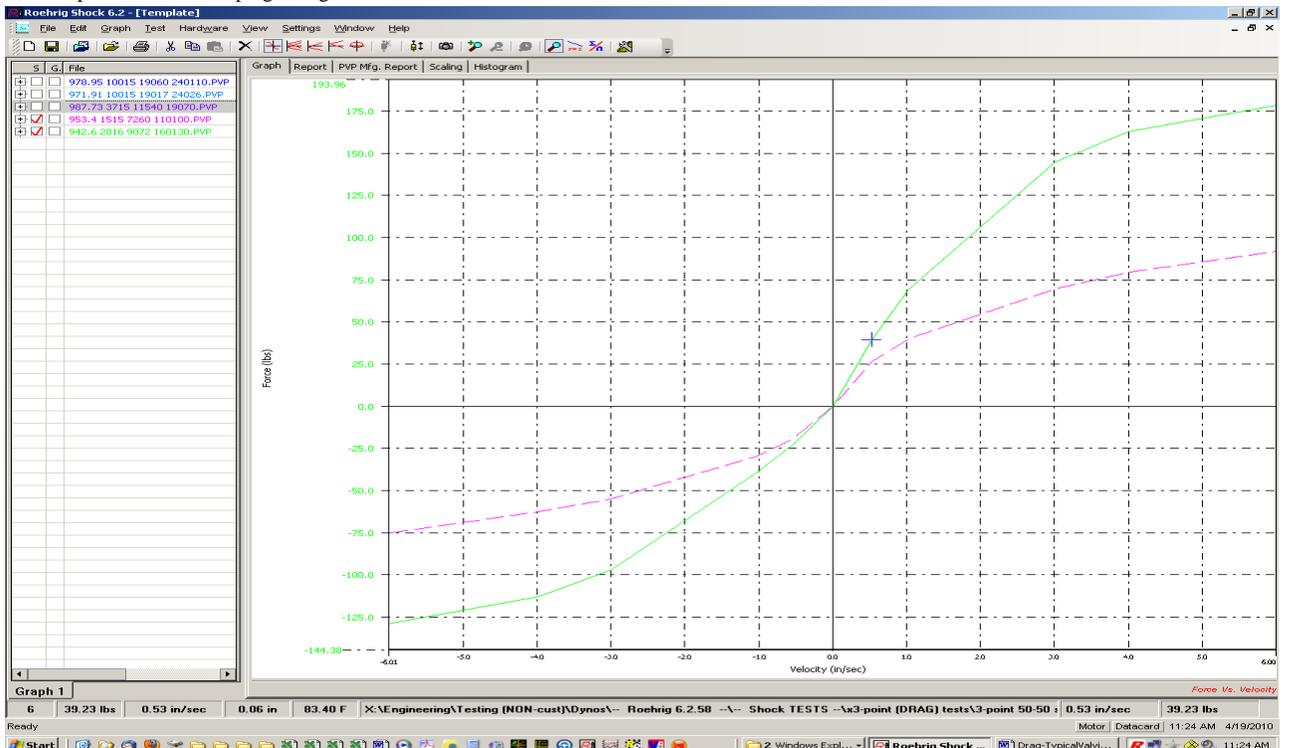
For comparison of the damping change - here we show the MID-TRACK in a dotted line & DOWN-TRACK in a solid line.



SHUT-DOWN (after chute is pulled):

We have chosen a “6” valving (Green trace), which has medium-stiff Rebound & Compression, which allows MAXIMUM STABILITY when the chute is pulled and decelerating (a soft valving at high-speeds gives maximum traction but it allows the chassis to move around too easily for maximum STABILITY – especially if the chute pulls other than dead straight when it opens or a quick steering correction has to be made).

For comparison of the damping change - here we show the DOWN-TRACK in a dotted line & SHUT-DOWN in a solid line.

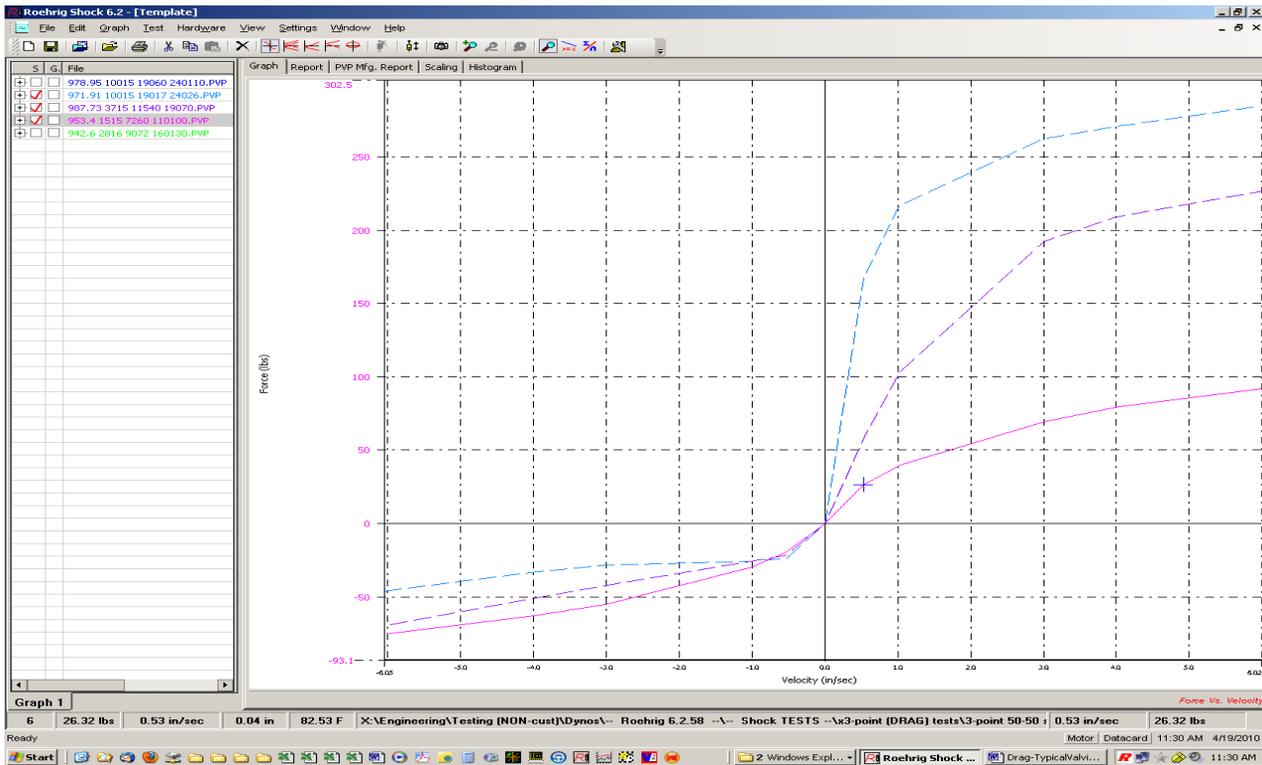




Comparison of LAUNCH, MID-TRACK & DOWN-TRACK (actual race sequence):

Here we show the Launch (Light Blue) & Mid-Track (Violet) in dotted lines & Down-Track (Fuchsia) in a solid line.

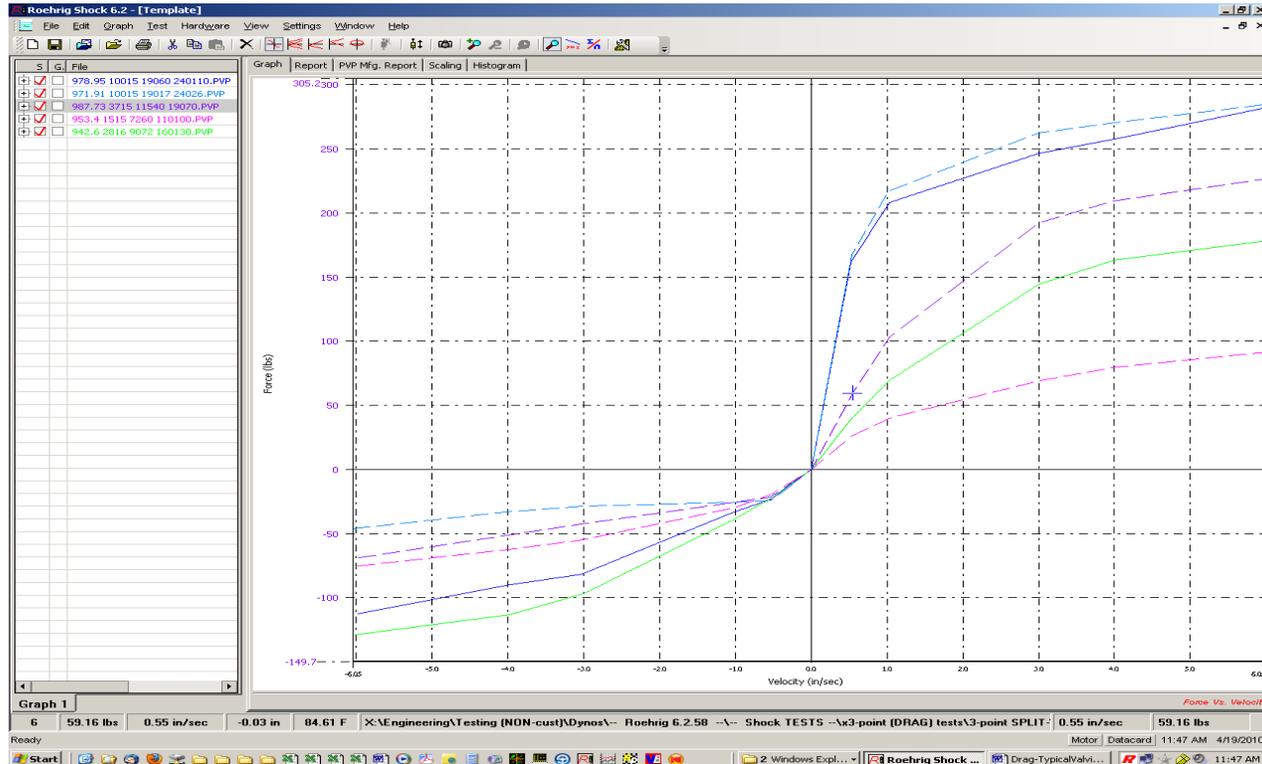
Here you can see how damping force changed from the start to the end of the race (Rebound came way down & Compression went up).



Comparison of ALL FIVE (5) valvings used during a complete race:

Here we show the BURNOUT (Dark Blue) & SHUT-DOWN (Green) as solid lines.

The THREE (3) STEPS during the actual run: Launch (Light Blue), Mid-Track (Violet) & Down-Track (Fuchsia), are shown as dotted lined.



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