MagneShock 3rd Gen SYSTEM Overview

The 3rd-GEN MagneShock SYSTEM is composed of 5 things:

    Controller, Shocks (1 to 4 each), Remote Switch, Programmer and related cables (5 to 8 as required)

CONTROLLER:

This is the "brain". It receives velocity/postion signals from the sensor in each magneShock and sends back a damping level signal to each shock.

    You are able to program & SAVE several different "SETUPS" (separate Force/velocity cusrve settings for each of the shocks).

    You can view or modify the settings of the Force/Velocity curve for EACH shock in the Controller using the Programmer. These settings can be temporary (for real-time changes) or SAVED.

    Any of the saved SETUPS are also accessible at any time with the Remote Switch.

The MagneShock system Controller also has a UNIQUE feature: Bunp & Rebound "BUMPERS".

You can set the physical position of the shock, at the limits of travel, where the damping goes to full STIFF to protect against Bottiming or Topping Out of the shock.

There are two (2) different kinds of Controllers – the difference is purely in software:

OVAL-TRACK, ROAD-RACING & STREET-ROD:
This allows settting the Force-Velocity curve at five (5) points:
0, ½, 1, 3 & 7 inches/second piston velocities.
And, it will save up to five (5) complete SETUPS.

DRAG-RACING:
This allows setting the Force-Velocity curve at three (3) points:
    0, 1 & 3 inches/second piston velocities.
It will save up to eight (8) complete SETUPS & has settable TIMERS to automatically change SETUPS at different pointws during the run.

Each Controller has a Power Switch. In the upper postion if is ON, in the center it is OFF and it has a "temporary" down position, which will reset all the shocks to their softest damping.

    MagneShocks' damping stays close to whatever it was the last time it got a signal. So, this feature can be very handy (make a difficult job easy) when installing or removing a potentially very stiff shock.

It also hasa circuit breaker (resettable but almost never required).

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SHOCKS:

Each MagneShock has an integral sensor, which tells the Controller its velocity, direction of travel & position.

   It also has an "electromagnet" in the piston that receives a signal from the Controller (4000 times per second) that changes the viscosity of the M-R Fluid to control the damping force of the shock.

   Each MagneShock is marked with a Part# (the last two digits are the actual stroke – without the decimal point : "5261 = 6.1" stroke), Gap size (an indicator of the actual damping range: smaller "Gap" = stiffer range), Serial# and a special "L" number.   The "L" number is used to calibrate the controller for the gap size of each shock it controls.

REMOTE SWITCHES:

Used to access any of the saved "SETUPS" at any time. There are a few different types of switches available (like dash, steering wheel or console mounting).

DRAG Racing uses a special 3-position switch :
#0 Calls a special SETUP for Burnouts.
#1 Calls up SETUP #1 for the :Launch.
      Then a timer automatically switches to SETUP #2
         for mid-track
      Then the timer goes to SETUP #3 for down-track
         to finish the race.
      AFTER passing the the lights it then calls
         SETUP #7 for STABILITY during
         Shutdown/deceleration.
#2 Calls a completely different group of SETUPS
       (#4, 5, 6 & then 7 again) which can be used when
      lanes require different shock settings.

It also has a terminal strip on the side, which has a place for:
1.. The "LAUNCH" Signal:
      When this terminal is grounded it starts the TIMER for SETUP#1 (or #4).
2.. The "CHUTE " Signal:
      When grounded it goes to SETUP#7 (even if the 3rd timer hasn't called it yet) – for STABILITY during Shutdown.
3.. +16 volts:
      This is simply for convenience,
      in case you need 16v power
      (or whatever voltage your car
      uses) for a relay or other low
      amperage application.
4.. GROUND:
      For the above signals or switches.

Oval-Track, Road-Racing & Street Rods:

There is a **5-position rotary switch** that can instantly call any of the five (5) SETUPS stored in the Controller.

There is also a **2-positiom bat-handled switch** that can be installed on the steering wheel.

This is commonly used where there are 2 SETUPS required during a race, such as:
   Different ends of an Oval-Track,
   A hairpin turn on a Road course.
   A different SETUP for later in the race when the
      track is anticipated to change.

Most drivers find it difficult to deal with a
multi-position rotary switch DURING the race
but have no problem with a 2-position switch mounted right
next to their thumb on the steering wheel.

Any TWO (2) of the five SETUPS can be easily connected
to the 2-position switch.

PROGRAMMER:

Plugs into the Controller box. Allows you to program SETUPS & settings AND/OR view or change existing SETUPS & settings in the Controller.

NOTE: The Programmer is not required during normal operation of the MagneShock system and is usually not connected until needed.

It displays all the data in bright LEDs (that can be read in daylight):
   MODE of operation,
   SETUP#s,
   Damping values,
   Piston velocities,
   Bumper positions,
   Timer settings and
   "L" number (calibration).

Its switches & buttons allow you to change any of the values.
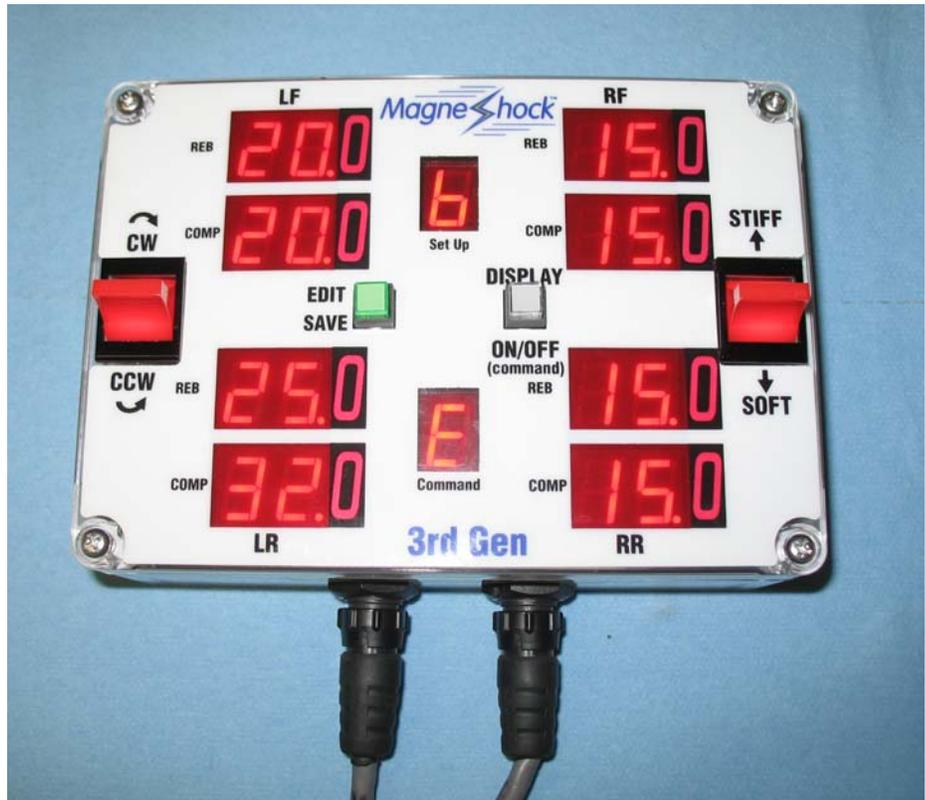
CABLES:

A cable goes from the:
1. Controller to the power (12 to 24vdc).
2. Controller to EACH MagneShock.
3. Controllerto the Remote Switch.
Two (2) cables go from the Controller to the Programmer, which is ONLY used/connected when needed.