Hydraulic Inspection Vehicle Explorer (HIVE)
Vehicle User Guide

‘Culvert Inspector’
Overview

This guide is intended to help answer questions users may have in the field after face-to-face training. This guide is not intended as a full training document, but a supplement to previous training. For any questions or issues not answered by this document, please contact the HIVE vehicle coordinator.

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HIVE Vehicle

- Waterproof Motor
- Controller Housing
- Electronic Speed Control
- Shock Springs
- Steering Servo
- Camera mounting plate
- Water proof servos for camera controls
Vehicle usage tips:

- Turn on transmitter before vehicle
- Turn vehicle onto “Training Mode” before using. To turn on to Training Mode, hold power button down until red light flashes 3 times, then release.
- Ensure battery cords are not pinched by compartment door.
- Make sure plastic body is secured to body mounts using clips before using
HIVE Controller

Transmitter tips:
- Turn on before vehicle when using.
- Do not flip servo reverse switches. Doing so will invert the controls, making controlling vehicle difficult.
- If camera servos are not straight, the servo calibration dials can be used to align camera.
- If vehicle has issues moving, check servo calibration dials and ensure they are equalized out.
Camera tips:

- Camera battery is independent of vehicle, ensure it is charged before using
- Ensure waterproof case is closed and sealed before using
- Ensure the camera is properly mounted with bolt fully engaged
- Camera storage card is located on bottom of camera
  - Please remove all footage from camera before returning, administrator will delete all footage before loaning vehicle out
- To access storage card or charging port, camera must be taken out of waterproof case
Tablet

Tablet tips:
- Tablet power is independent of vehicle, ensure it is charged before using
- Tablet does not have any password protection, please ensure that it is used properly
- Administrator will update the tablet when system is returned
- Tablet is not waterproof, please handle with care

Tablet to Camera Connection
- Make sure camera is charged and turned on
- Use PlayMemories Mobile tablet to connect or turn on the camera
- Wi-Fi connections are best, but Bluetooth connections can be used
- To find QR code to re-connect to camera, remove camera from waterproof case and open battery compartment on side of camera
Charging Equipment

Charging equipment tips:
- Vehicles only use NIMH batteries, no LIPO settings are used
- Do not leave batteries on charger overnight, please remove when fully charged
- Charge as slowly as possible to extend battery life
- Charger will alert user when the battery is fully charged (Green light will be fully illuminated and charger will chirp)
**Resources:**

**E/Revo 16 Documents**

https://traxxas.com/products/models/electric/71054-1erevo116?t=support

**HDR-AS300 Information**

https://esupport.sony.com/US/p/model-home.pl?mdl=HDRAS300R&template_id=1&region_id=1&tab=howto#/howtoTab

**Galaxy Tab Manuals**


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Special Thanks to Robert Coughlin at MNDOT for his guidance through the construction of the HIVE Vehicle. Their information on HIVE Vehicle or how to create your own is at:

http://www.dot.state.mn.us/research/projects/hive/hive.html