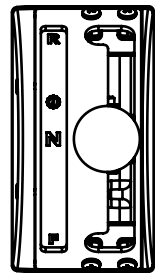
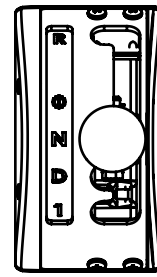


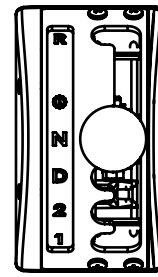
SHIFT GATE CONFIGURATIONS (RIGHT HAND)



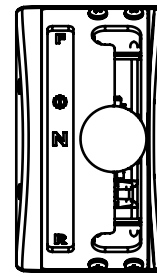
TOP VIEW
FNR / DNR GATE
SCALE: 1:4



TOP VIEW
RND1 GATE
SCALE: 1:4



TOP VIEW
RND21 GATE
SCALE: 1:4



TOP VIEW
RNF (EUROPE) GATE
SCALE: 1:4

ASSEMBLY PART NUMBERS

| CONFIGURATION | PCS PART NUMBER |
|-------------------|-----------------|
| FNR - RH | IES2030 |
| FNR - LH | IES2031 |
| DNR - RH | IES2032 |
| DNR - LH | IES2033 |
| RNF (EUROPE) - RH | IES2034 |
| RNF (EUROPE) - LH | IES2035 |
| RND1 - RH | IES2040 |
| RND21 - RH | IES2050 |

* SEE NOTES 6 AND 7.

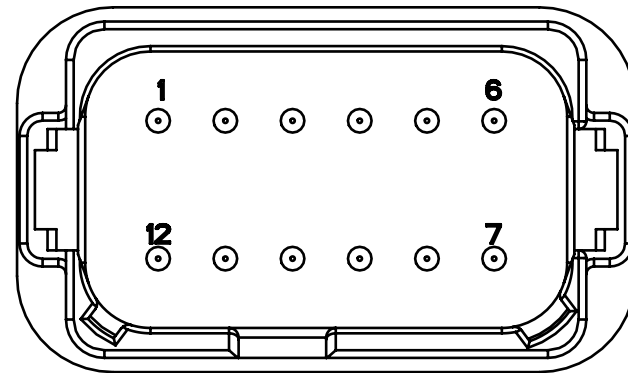
INDUSTRIAL ELECTRONIC SHIFTER PINOUT

| PIN | NAME | DESCRIPTION | TYPICAL APPLICATION |
|-----|----------|---|------------------------------|
| 1 | RELAY 1 | SOLID STATE RELAY, 10A MAX | NEUTRAL SAFETY SWITCH |
| 2 | | | |
| 3 | OUTPUT 1 | OUTPUT - BATTERY VOLTAGE (HIGH) OR GROUND (LOW). PWM, 1AMP MAX. | HIGH/LOW IN NEUTRAL POSITION |
| 4 | OUTPUT 2 | OUTPUT - BATTERY VOLTAGE (HIGH) OR GROUND (LOW). PWM, 1AMP MAX. | HIGH/LOW IN REVERSE POSITION |
| 5 | RELAY 2 | SOLID STATE RELAY, 10A MAX | BACKUP LIGHTS |
| 6 | | | |
| 7 | POWER | SWITCHED (IGNITION), 8-32V DC | - |
| 8 | GROUND | GROUND | - |
| 9 | OUTPUT 3 | OUTPUT - BATTERY VOLTAGE (HIGH) OR GROUND (LOW). PWM, 1AMP MAX. | HIGH/LOW IN FORWARD POSITION |
| 10 | CAN HI | CAN (J1939 OR CONFIGURABLE) | - |
| 11 | CAN LO | | - |
| 12 | INPUT 1 | DIGITAL INPUT (CONFIGURABLE) | SHIFT INHIBIT |

RECEPTACLE: DEUTSCH DT13-12PA-B016. HARNESS CONNECTOR: DEUTSCH DT06-12SA-P016

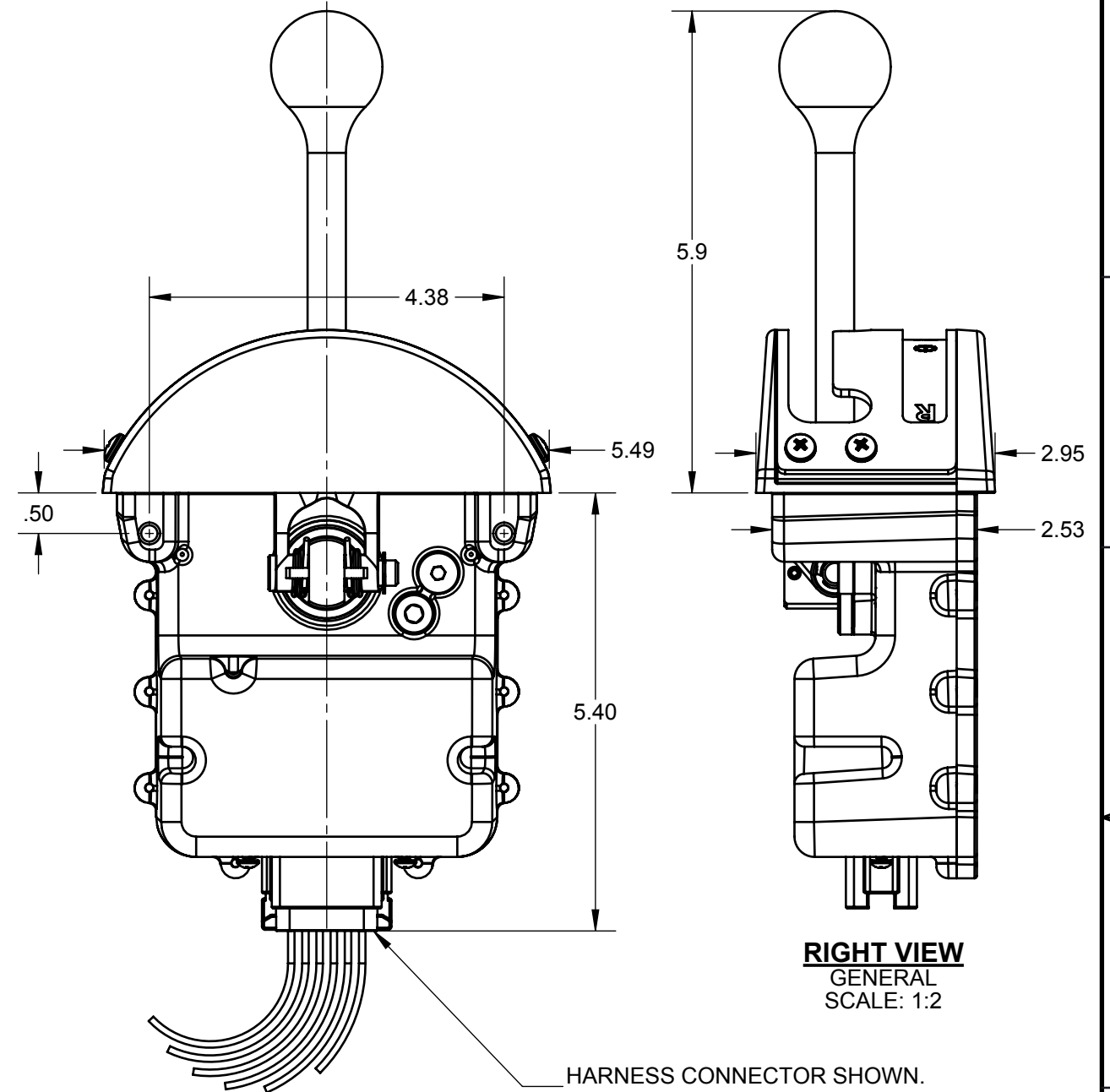
NOTES:

- THIS DRAWING IS INTENDED AS A GENERAL REFERENCE FOR ANY VEHICLE WITH OR INTENDING TO HAVE A PCS "INDUSTRIAL ELECTRONIC SHIFTER" PACKAGE INCLUDING (BUT NOT LIMITED TO) THE FOLLOWING FEATURES:
 - DIRECT PHYSICAL REPLACEMENT TO THE TRADITIONAL GSE MECHANICAL SHIFTERS.
 - CONFIGURABLE "NEUTRAL-LOCK" RATED FOR 1160N (260LB) KNOB LOAD DURING "SHIFT-INHIBIT" CONDITIONS.
 - DESIGNED AND TESTED FOR INDUSTRIAL ENVIRONMENTS.
 - INGRESS PROTECTION RATING OF IP66.
 - TEMPERATURE RATING OF -40 TO 85 °C (-40 TO 185 °F).
 - BUILT IN (LED ILLUMINATED) RANGE POSITION LIGHTS.
 - BUILT IN (LED ILLUMINATED) TRANSMISSION DIAGNOSTIC LIGHT (ALSO PROVIDES J1939 DIAGNOSTIC CODES).
 - BUILT IN NEUTRAL-SAFETY SWITCH (RELAY 1, CAN BE PROGRAMMED FOR OTHER APPLICATIONS).
 - BUILT IN BACKUP-LIGHT CONTROLLER (RELAY 2, CAN BE PROGRAMMED FOR OTHER APPLICATIONS).
 - AVAILABLE FORWARD / NEUTRAL / REVERSE OUTPUTS FOR RANGE NOTIFICATION TO OTHER VEHICLE SUB-SYSTEMS.
- A PCS GENIII (3) VALVEBODY, PCS TRANSMISSION CONTROLLER, AND PCS APPROVED CALIBRATION ARE REQUIRED TO OPERATE THE 4LHD TRANSMISSION SYSTEM UNDER WARRANTY. CONSULT PCS FOR OTHER TRANSMISSION APPLICATIONS.
- THE NEUTRAL LOCK FEATURE WILL PREVENT THE SHIFT LEVER FROM LEAVING NEUTRAL DURING UNSAFE SHIFTING CONDITIONS AND LOSS-OF-12V-POWER. ATTEMPTING TO BYPASS THIS FEATURE ELECTRONICALLY OR PHYSICALLY WILL VOID THE WARRANTY.
- THE SYSTEM REQUIRES SWITCHED (IGNITION) 8-32V DC, PROTECTED BY ITS OWN 10A FUSE (RELAYS EXEMPT). ELECTRICAL CONNECTIONS BETWEEN THIS SYSTEM AND THE POWER SOURCE MUST BE SECURELY FASTENED USING AN APPROVED CONTACT METHOD.
- THE SHIFTER IS TO BE SECURELY FASTENED TO THE VEHICLE BODY WITH A MINIMUM TWO OF THE 1/4-20" MOUNTING HOLES.
- FURTHER FEATURES CAN BE ENABLED OR DISABLED WITH THE CALIBRATION. CONTACT PCS FOR CALIBRATION ASSISTANCE.
- REMINDER: RIGHT HAND SETUPS ARE THE MOST COMMON IN GSE VEHICLES.



DETAIL VIEW
CONNECTOR
SCALE: 2:1

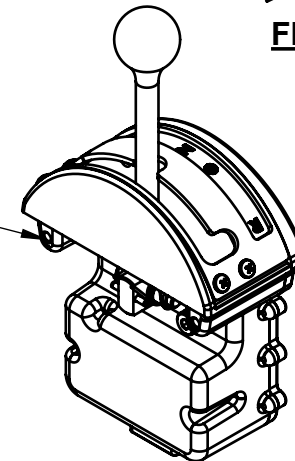
4X 1/4-20" TAPPED HOLES.
BOLTS NOT INCLUDED.
TORQUE BOLTS TO 45 IN-LBS.



FRONT VIEW
GENERAL
SCALE: 1:2

RIGHT VIEW
GENERAL
SCALE: 1:2

HARNESS CONNECTOR SHOWN.
ADDITIONAL WIRE CLEARANCE REQUIRED.



ISOMETRIC VIEW
GENERAL
SCALE: 1:2

PROPRIETARY AND CONFIDENTIAL
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| | |
|--|---------------|
| USED ON | NEXT ASSEMBLY |
| DRAWN BY: JJK | 4/11/2018 |
| ENG APPR.: MFP | 11/20/2018 |
| DIMENSIONS ARE IN INCHES SCALE: 1:2 SHEET 1 OF 3 | |



| | | |
|--------------------------------------|-------------|----------|
| DESCRIPTION | | |
| INDUSTRIAL ELECTRONIC SHIFTER | | |
| SIZE | DRAWING NO. | REV |
| B | SEE CHART | D |