

367 “Shift on Fly” (Compact TM)



- ❑ The 367 Shift-On-Fly is suitable for compact Industrial market dominated by Hydrostatic-driven system, including Wheeled Excavators, Telescopic Boom Handlers and Front-end Loaders.
- ❑ The Transmission is designed to enhance vehicle mobility and allow for quick deployment from worksite to worksite.
- ❑ The 367 Shift-on-fly Transmission is extremely compact and versatile, with advanced gear shifting technology and a wide range of available ratios.
- ❑ Designed for Vehicles requiring a slow working speed and a fast speed for traveling. It enables to shift gear in any driving condition (Uphill, Downhill, Etc.). Standstill gear ratio change condition is no longer required.
- ❑ Concept:
 - ❑ Higher system efficiency and reduced noise emission when driving at max speed
 - ❑ To Synchronize the Up and Down-Shifting of a Simple Mechanical Gear Box Through Dedicated Electronic Control.
 - ❑ Development in cooperation with Hydraulic Motors Company

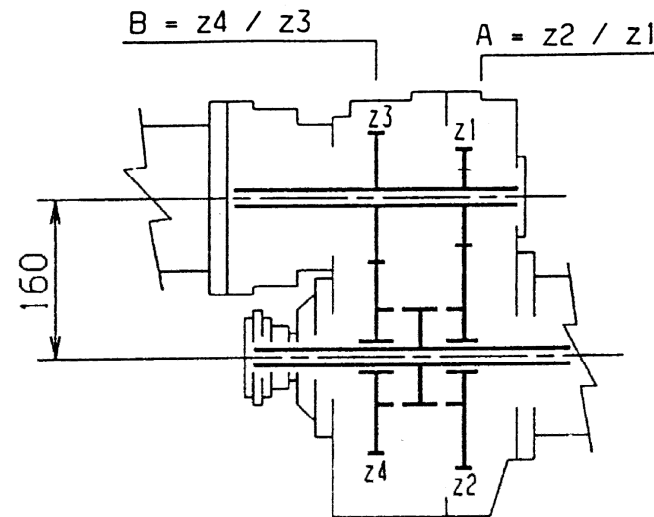
Technical features

- ❑ Engine: Up to 140 HP
- ❑ Max Speed: Over 40 Km/h
- ❑ Hydraulic Motor: One hydrostatic motor (From 55 cc. To 115 cc)
- ❑ Speeds: 2
- ❑ Maximum Input Torque: 820 Nm
- ❑ Maximum Input Speed: 5000 RPM
- ❑ Oil Quantity, approximate: 1.7 (Lt.)
- ❑ Unit Weight, approximate: 75 (Kg.)

- ❑ Options:
 - Speed Sensor
 - External or Internal Parking Brake, hydraulically released (S.A.H.R.)

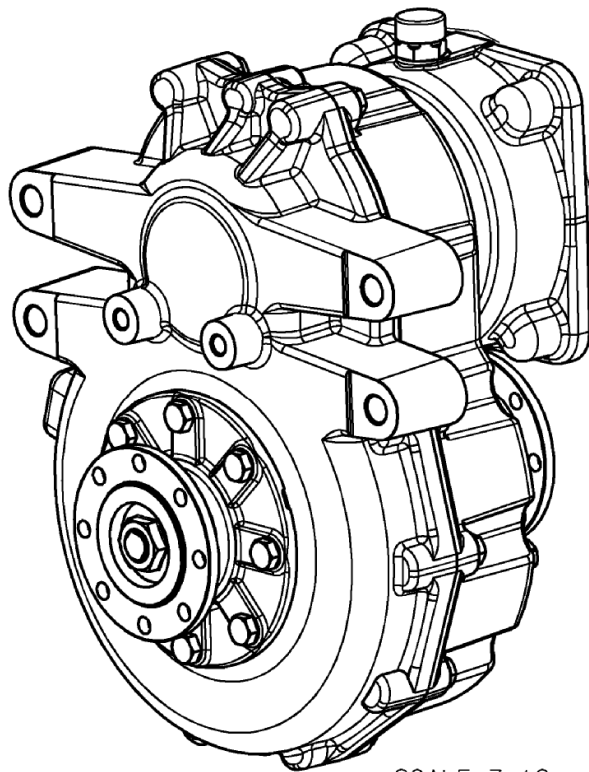
Ratios

- ❑ The maximum ratio is: 1: 4.53 (First speed) and 1: 1.62 (Second speed)
- ❑ Spread: Max. 3.1
- ❑ The range is:
 - ❑ 1° Gear: 1:2.03 - 1:2.33 - 1:2.56 - 1:2.75 - 1:3.29 - 1:3.74 - 1: 4.06 and 1:4.53
 - ❑ 2° Gear: 1:1.14 - 1:1.31 - 1:1.43 and 1:1.62

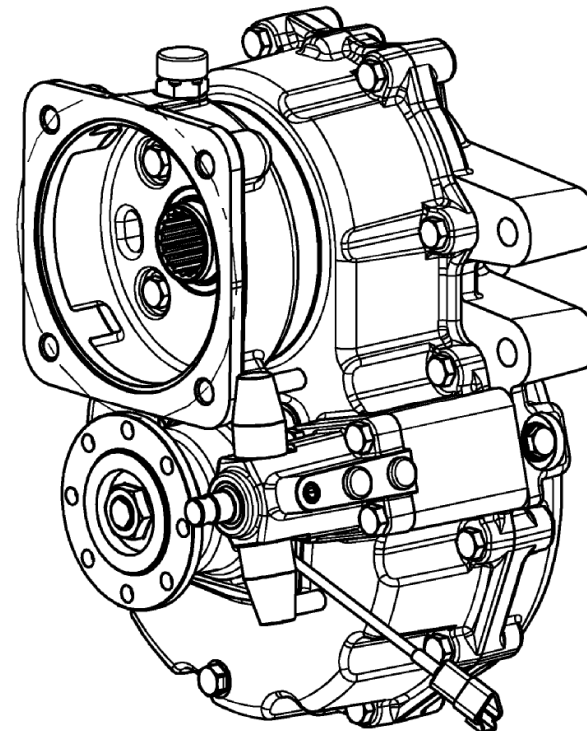


The 367 has a compact Lay-out. It stays within the 357 envelope

The 367 can be Remote mounted or directly mounted to 111, 112 and 212 Axles (Vertically to horizontally)

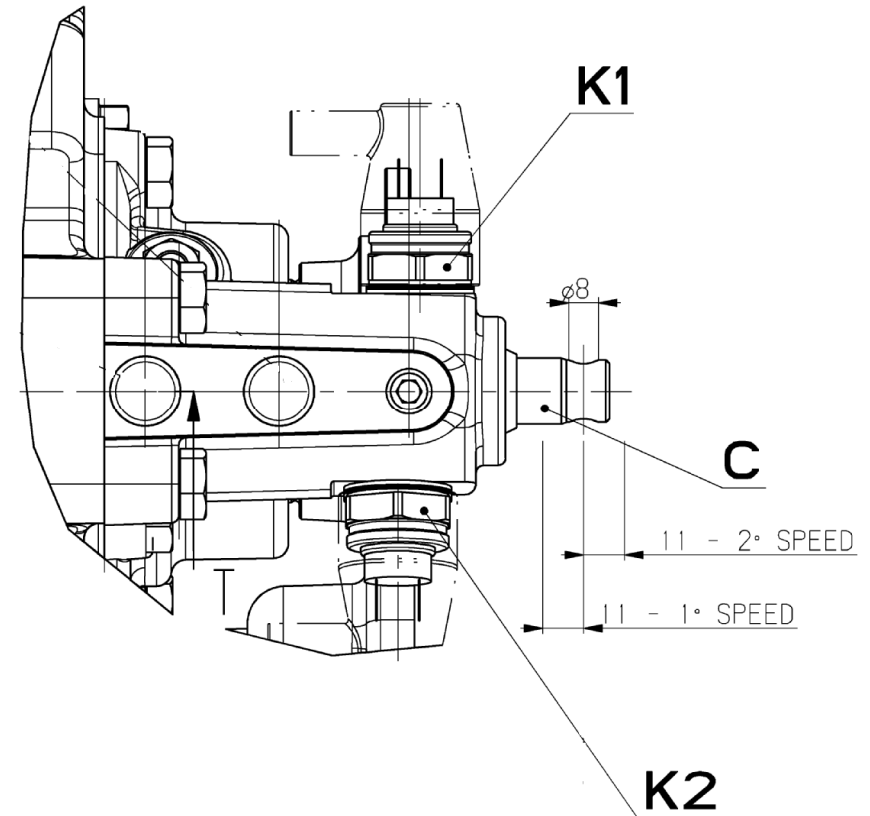
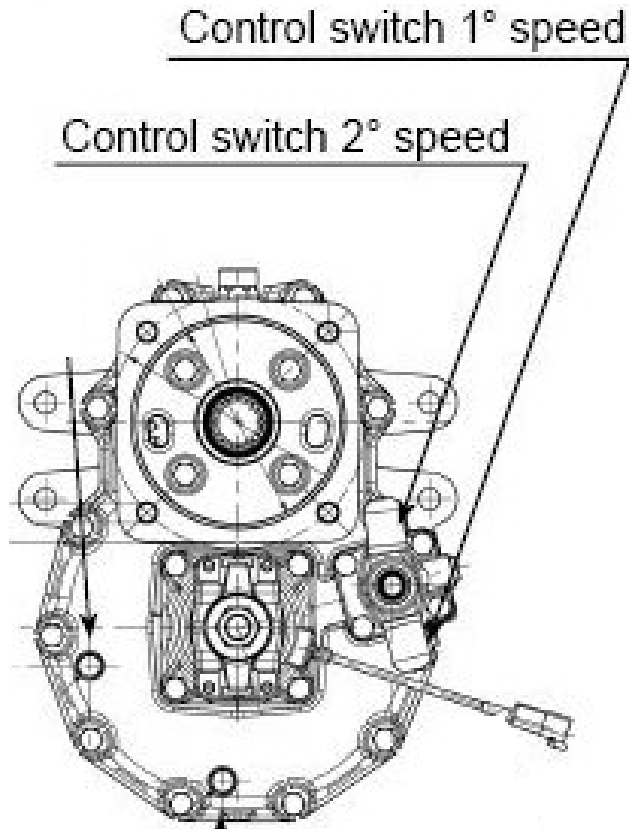


SCALE 3:10

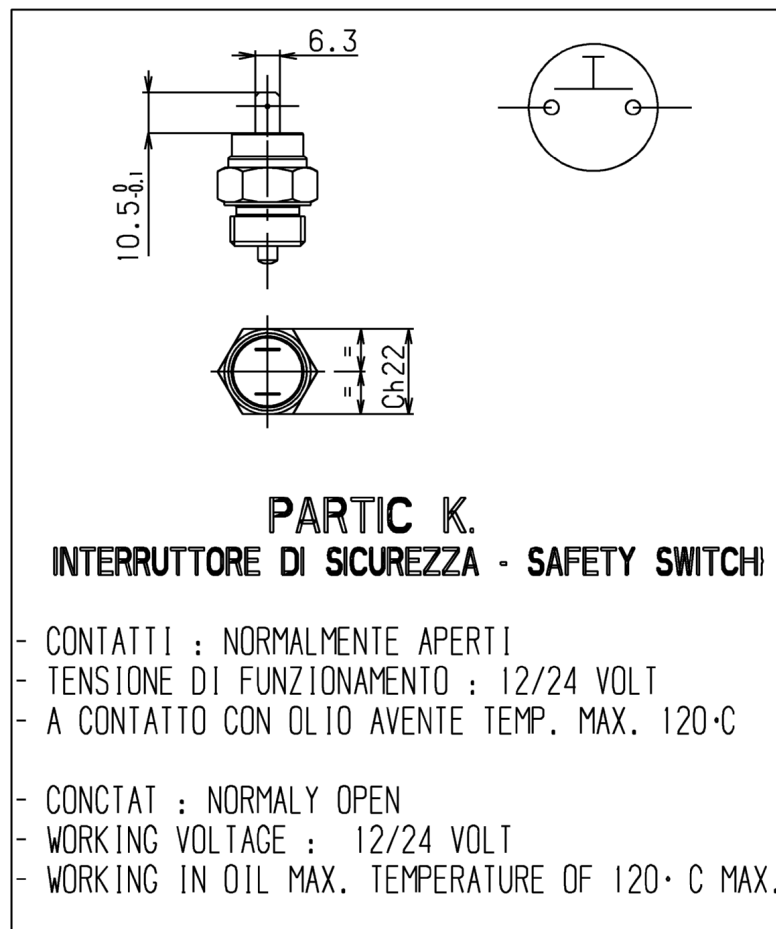


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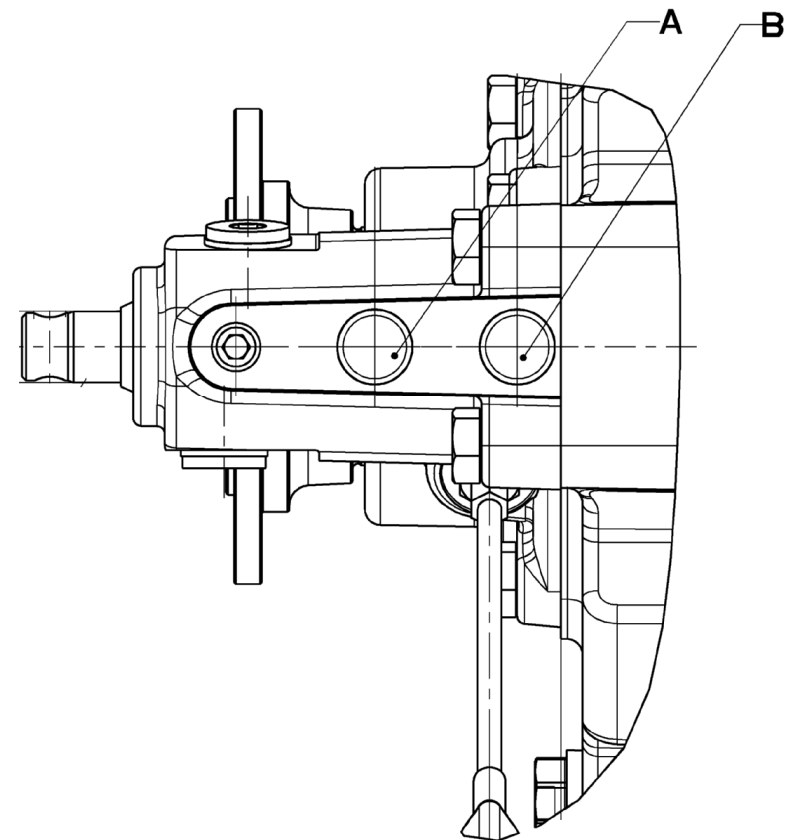
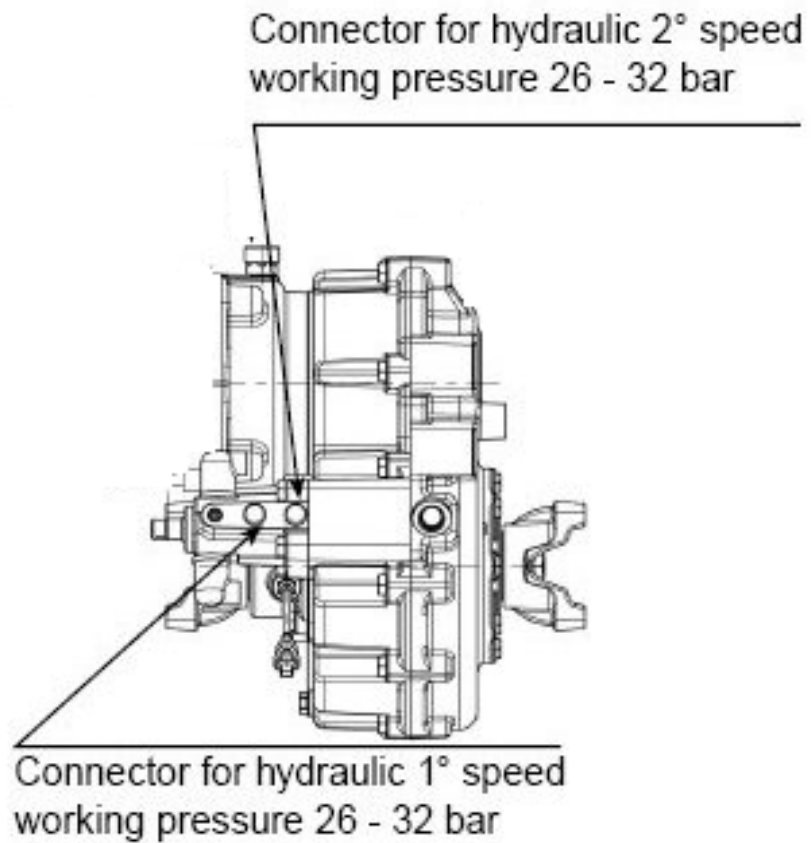
Gear Speed Engagement (Security Switch)



- K1: Security switch (1° Speed) 乌龟档指示开关
- K2: Security switch (2° Speed) 兔子档指示开关
- C: Neutral Position – Manual Control



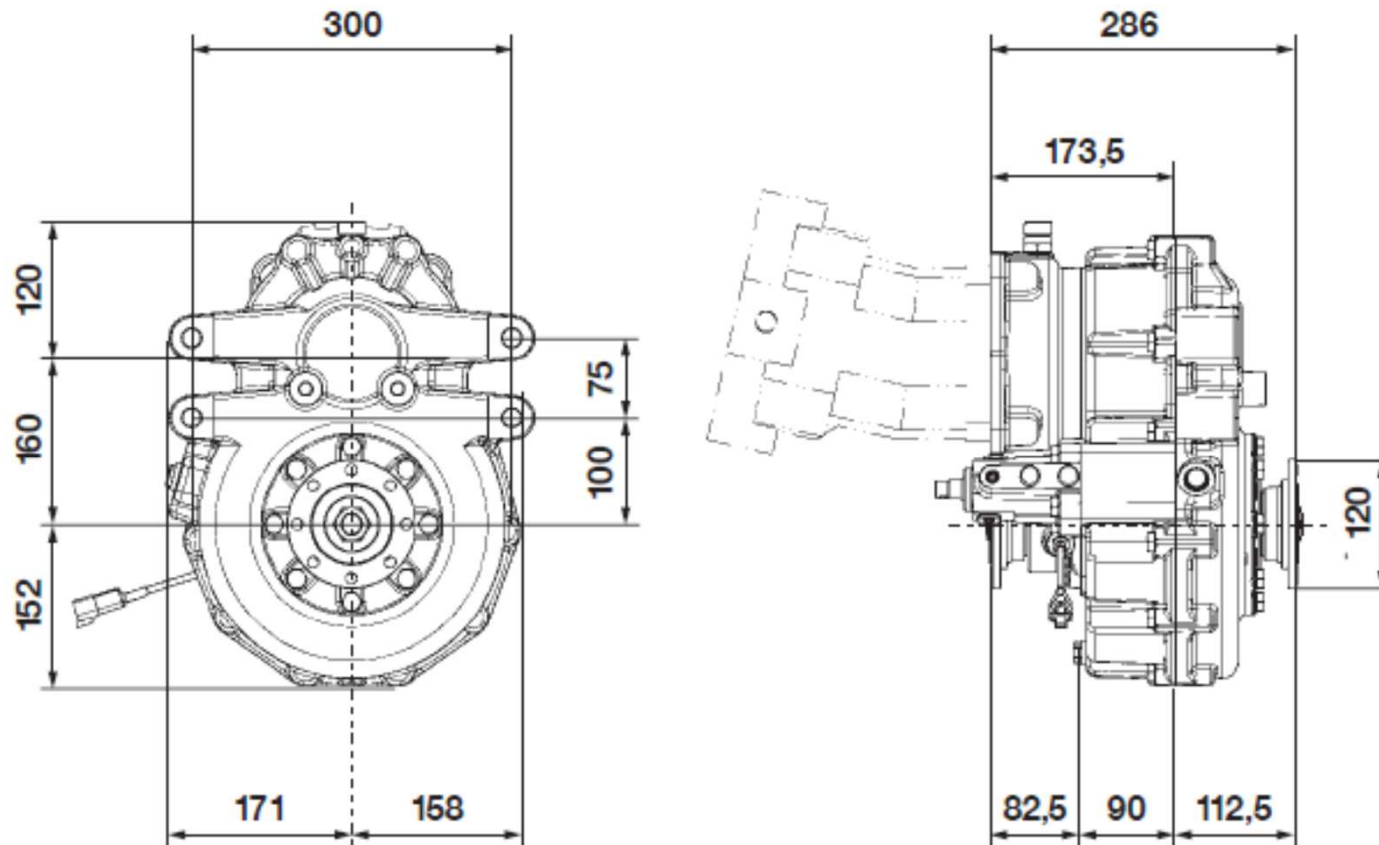
Gear Speed Engagement (Connection)



A: Connector (1° Gear Speed engagement) 乌龟档换挡接口
B: Connector (2° Gear Speed engagement) 兔子档换挡接口

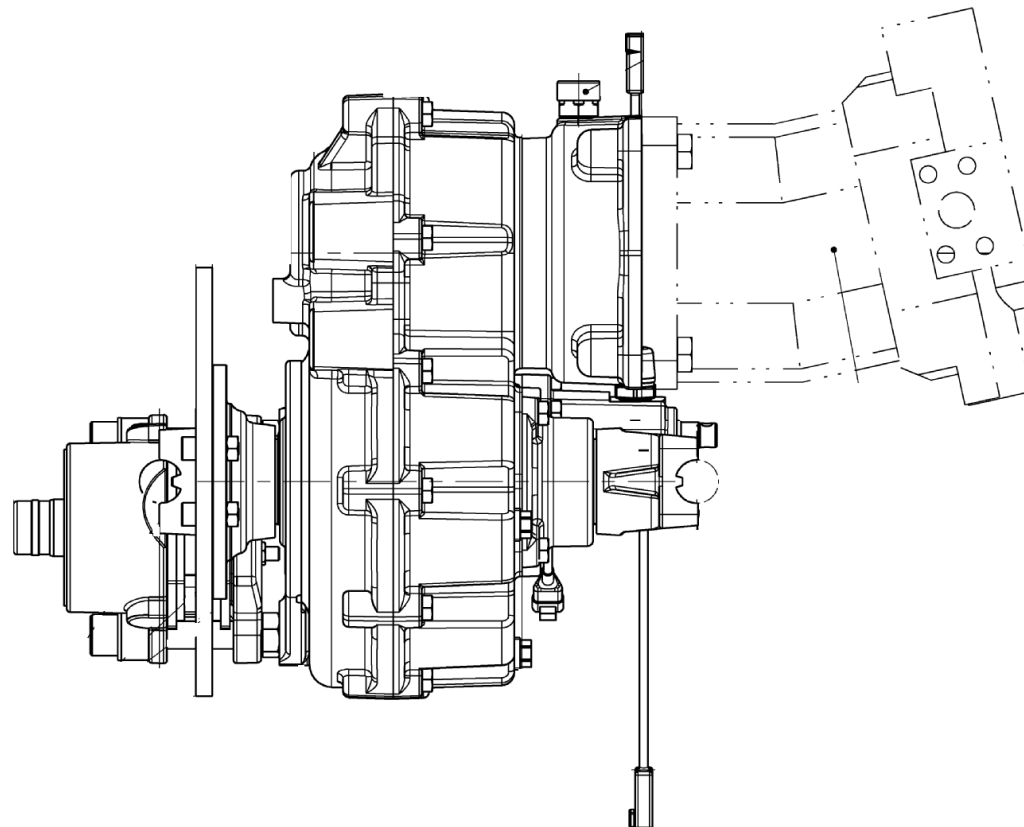
367 Shift on Fly (Installation Drawings)

For Reference Purposes Only



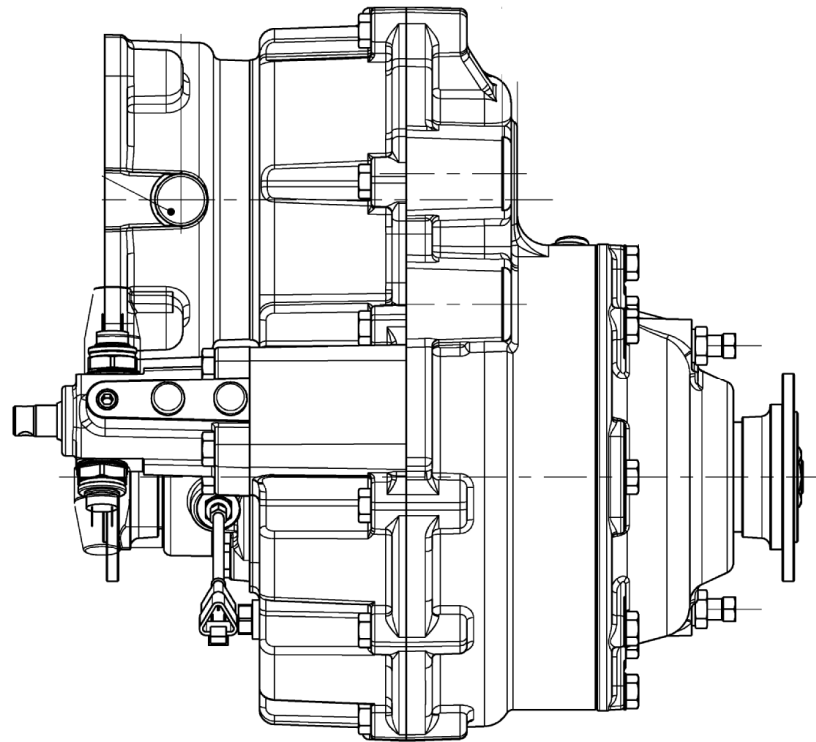
All dimensions are in millimeters

Options: External Parking Brake (S.A.H.R.)



Solution A: SAHR Brake Working Pressure: 38/100bar (Min/Max)
Solution B: SAHR Brake Working Pressure: 80/200bar (Min/Max)

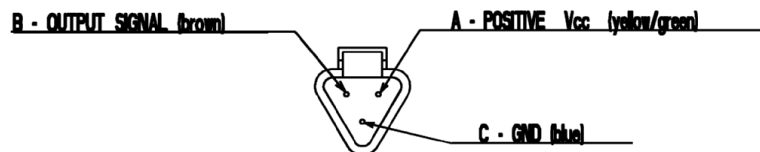
Options: Internal Parking Brake (S.A.H.R.)



SAHR Brake Working Pressure: 30/40bar (Min/Max)

Options: Speed Sensor

CONNESSIONE/CONNECTOR DEUTSCH DT04-3P



CARATTERISTICHE

SENSORE ZERO SPEED

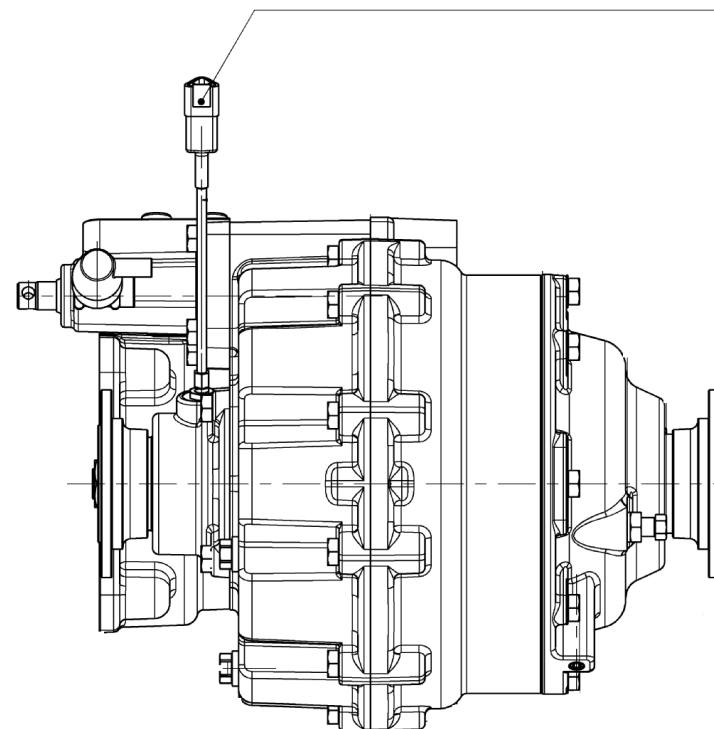
ALIMENTAZIONE: MIN 4.5 MAX 30 Vdc
 CORRENTE ASSORBITA: MAX 25 mA
 FREQUENZA: 15 KHz
 RESISTENZA INTERNA: 145 ohm ± 30 ohm
 RESISTENZA ISOLAMENTO: 10 Mohm (500V)
 GRADO DI PROTEZIONE: IP67
 STRESS DA VIBRAZIONE: 10g/40 TO 1000 Hz
 TEMPERATURA DI UTILIZZO: -40°C +120°C
 PROTEZIONE DA INVERSIONE DI POLARITA'
 PROTETTO DA PICCHI POSITIVI E NEGATIVI
 USCITA SEGNALE (FREQ.): INTERNAL PULL UP-NPN R10kOhm
 MATERIALE CORPO: INOX TORNITO
 DISTANZA MONTAGGIO SENSORE-RUOTA FONICA 0.2-1mm

CHARACTERISTICS

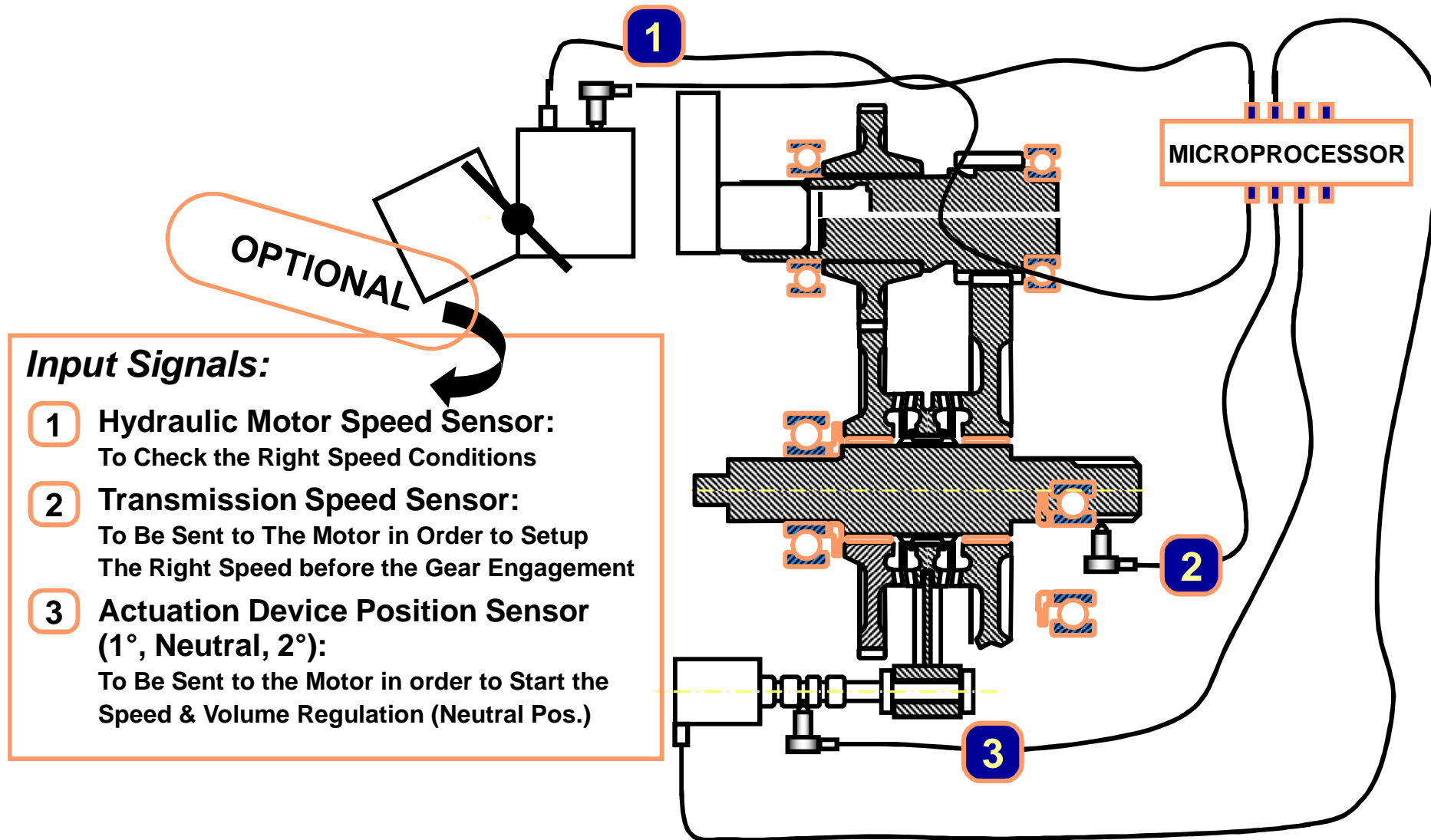
ZERO SPEED SENSOR

ELECTRIC INPUT: MIN 4.5 MAX 30 Vdc
 ABSORBED CURRENT: MAX 25mA
 FREQUENCY: 15 KHz
 INTERNAL RESISTANCE: 145 ohm ± 30 ohm
 INSULATION RESISTANCE: 10Mohm (500V)
 DEGREE OF PROTECTION: IP67
 STRESSES: 10g/40 TO 1000Hz
 OPERATING TEMPERATURE: -40 +120°C
 PROTECTED BY POLARITY INVERSION
 POSITIVE AND NEGATIVE PEAKS PROTECTED
 OUTPUT SIGNAL (FREQ): INTERNAL PULL UP-NPN R10kOhm
 BODY MATERIALS: LATHED INOX
 SENSING DISTANCE 0.2-1mm

R1 CONNETTORE DEUTSCH DTM04-3P



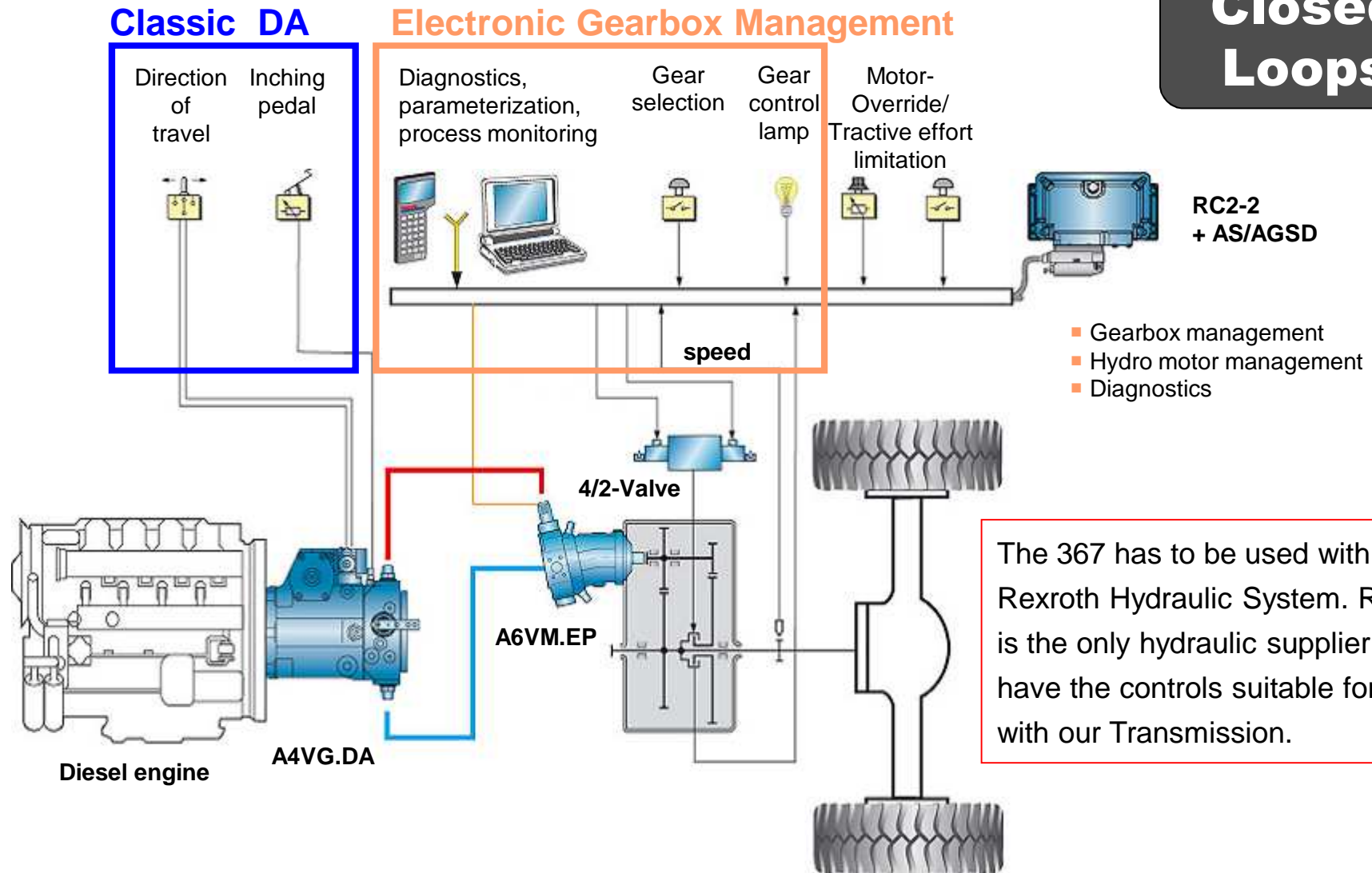
Sensors Location



- Input Signals:**
- 1 Hydraulic Motor Speed Sensor:**
To Check the Right Speed Conditions
 - 2 Transmission Speed Sensor:**
To Be Sent to The Motor in Order to Setup The Right Speed before the Gear Engagement
 - 3 Actuation Device Position Sensor (1°, Neutral, 2°):**
To Be Sent to the Motor in order to Start the Speed & Volume Regulation (Neutral Pos.)

Basic Configuration (EGM)

Closed Loops



Premium Configuration (GM + EDC)

**Closed
Loops**

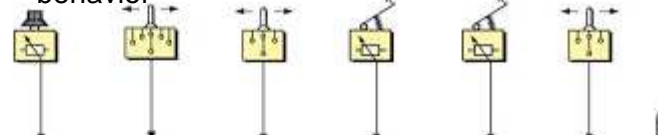
Gearbox Management

Diagnostics, parameterization, process monitoring
Gear selection
Gear control lamp



Electronic Drive Control

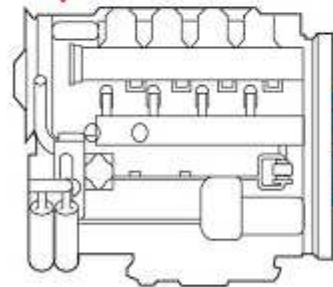
Tractive effort limitation / Acceleration behavior
Direction of travel
Drive pedal
Inching pedal
Special pedal functions



**RC4-4 +
AS/DRCD+AGSD**

- Automotive driving
- Inching function
- Gearbox management
- Load limiting control
- Diagnostics

CAN-Bus



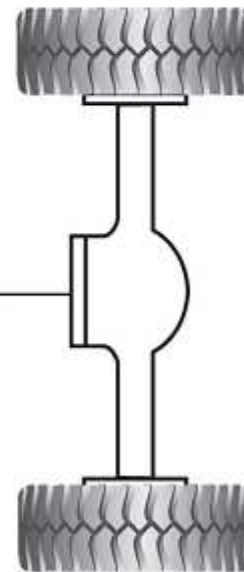
Diesel engine

A4VG.DE

A6VM.EP

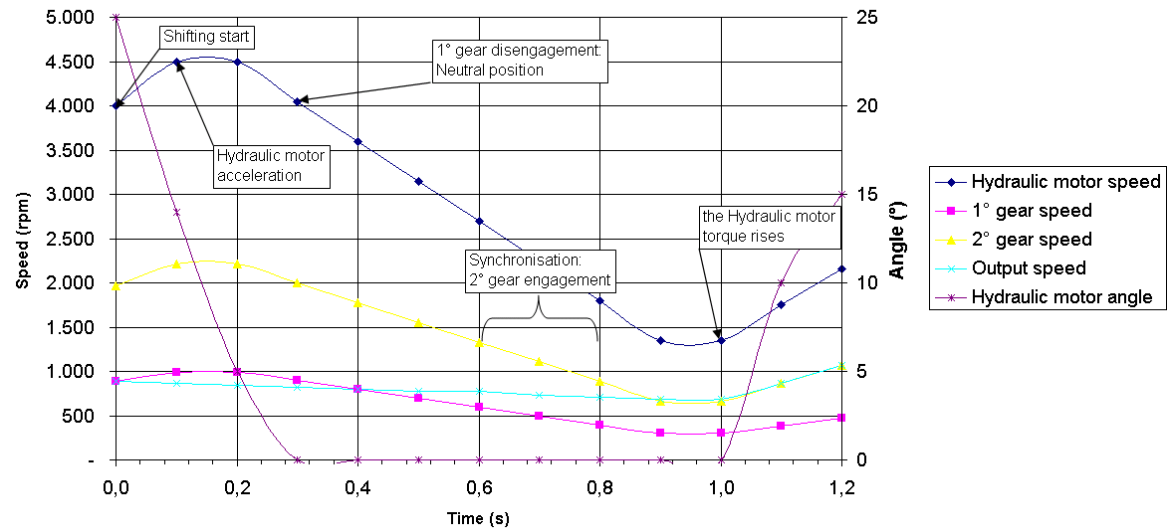
4/2-Valve

speed

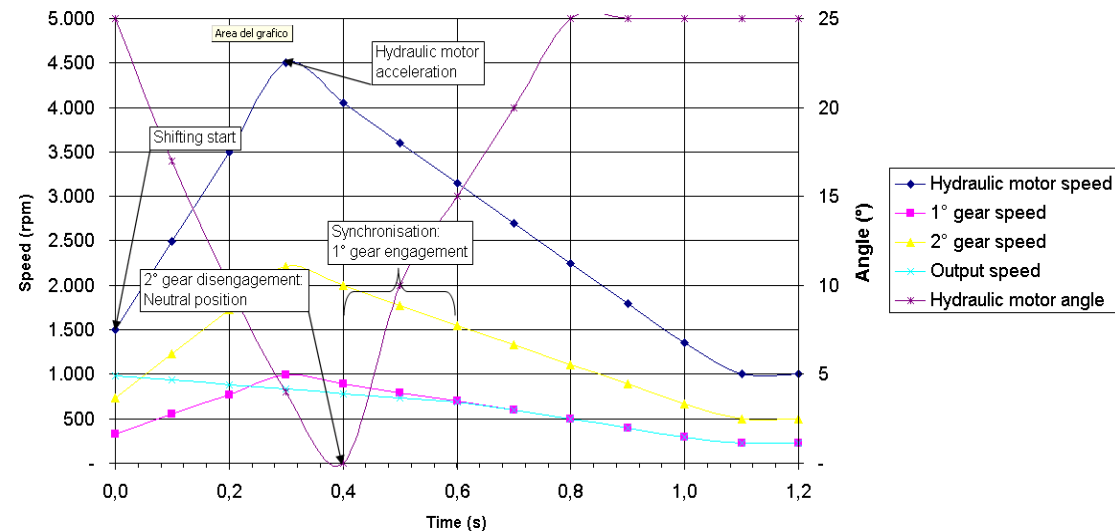


Gear Shifting Sequence

Shifting Sequence from 1° to 2° Gear

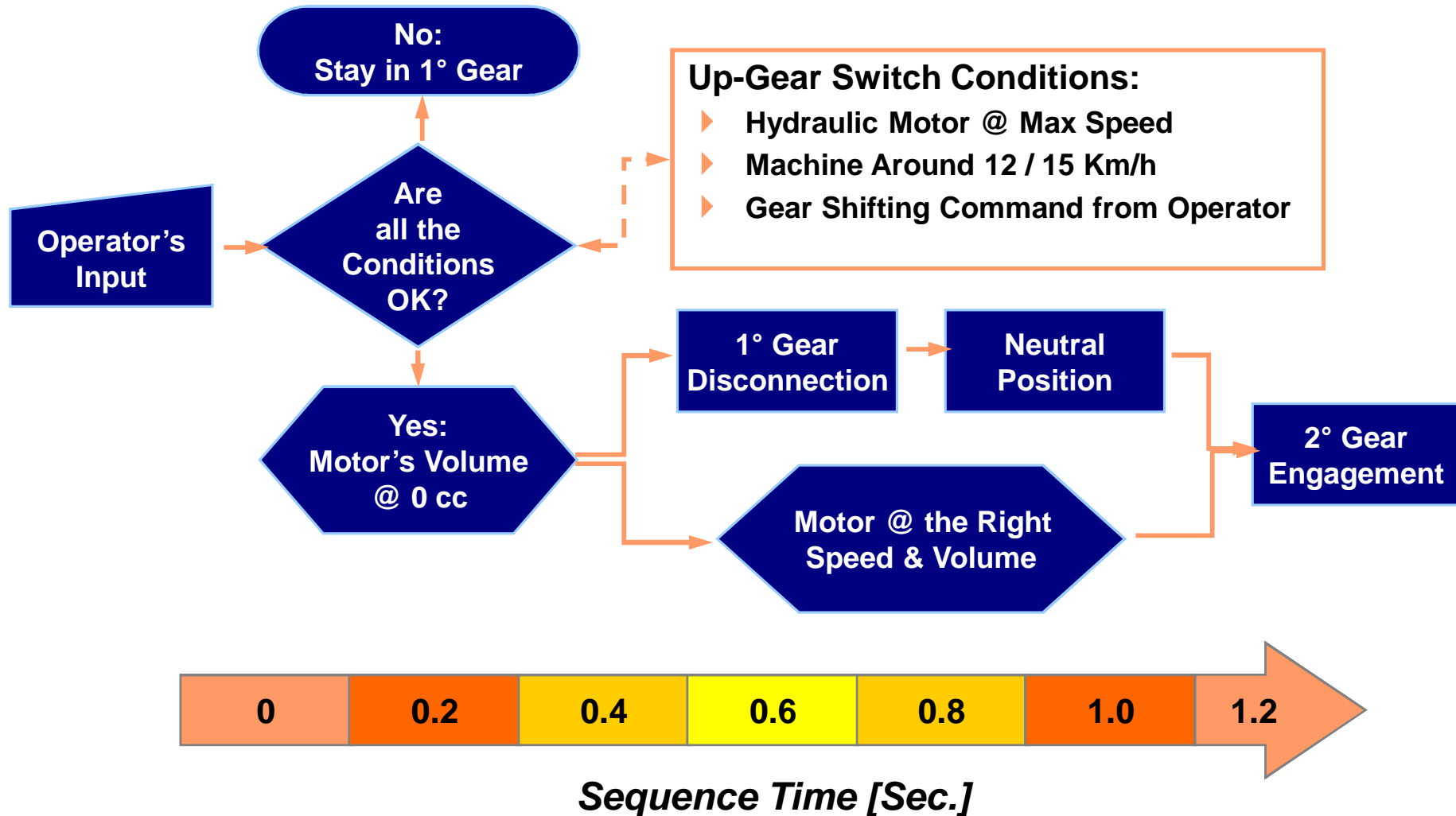


Shifting Sequence from 2° to 1° Gear

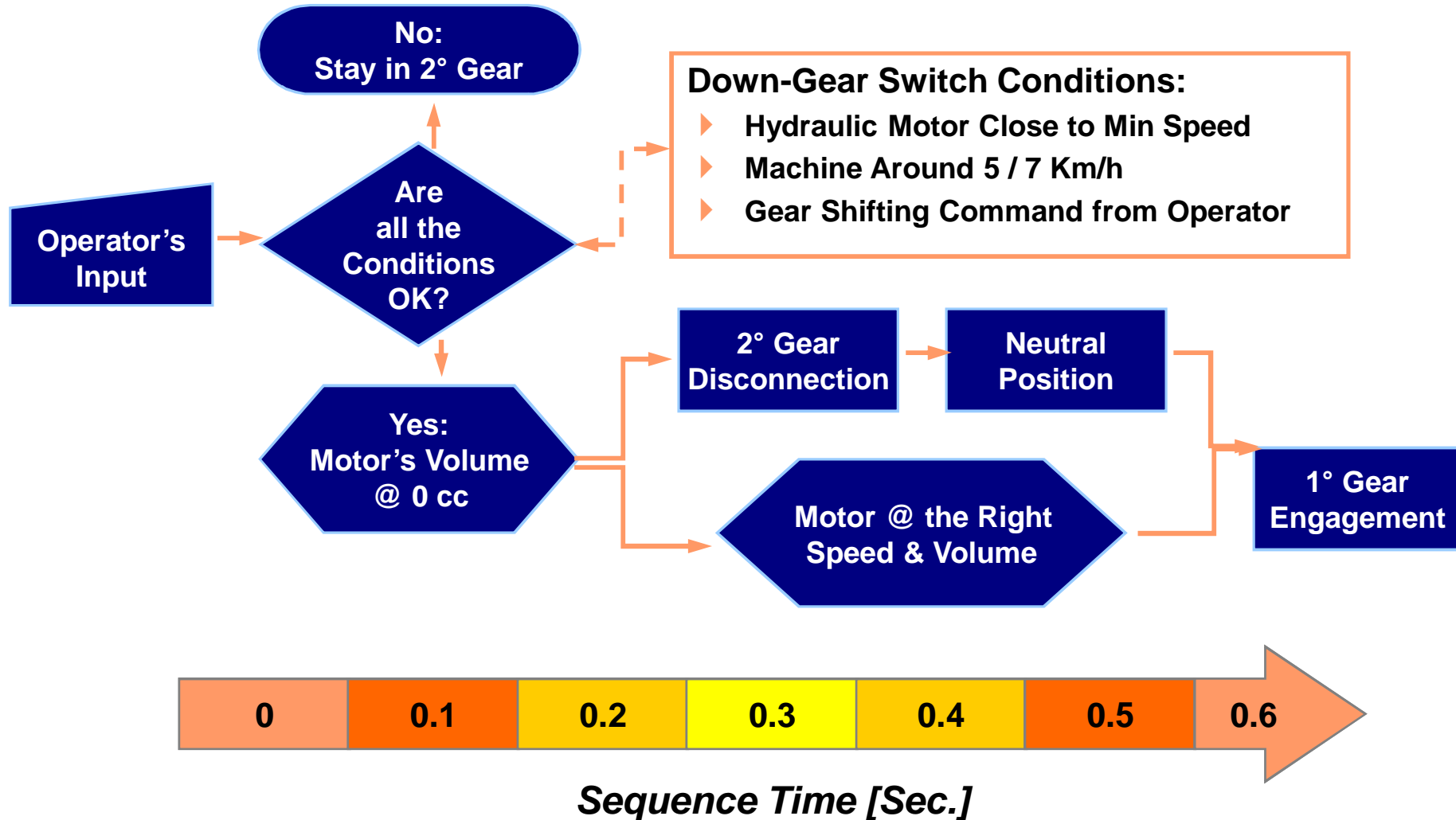


NOTE: Shifting time can be reduced up to 0.1 sec. with premium configuration

Gear Shifting Sequence (From 1° To 2°)



Gear Shifting Sequence (From 2° To 1°)



Sales Support Dept. – Off-Highway Products Group

Arco (Italy)

APPLICATION POLICY

Capacity ratings, features, and specifications vary depending upon the model and type of service.

Application approvals must be obtained from the Dana Off-Highway Products Group.

We reserve the right to modify our product specifications, configurations, or dimensions at any time without notice.