



CONDITION MONITORING

On-line Ferrous Wear Meter - OFWM

Hardware | What is supplied by Parker and what needs to be purchased elsewhere



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OFWM2302

What is in the box

- Sensor with valves attached
- Sensor anti-vibration mounts



Installation steps

Survey | Pre-work | Fitting | Commissioning

- Survey – month before
 - Decide where to install
 - Pipe, cable and airline runs; connection points
 - How the system is powered and monitored [PC]
- Pre-Installation - weeks before
 - *Vessel crew can do this work as it is mechanical and involves welding*
 - Fabrication of sensor mounting brackets
 - Installation of airlines,
 - Oil in and out bosses welding to drain lines
 - Pulling cables



Installation steps

Survey | Pre-work | Fitting | Commissioning

- Installation day 1
 - The sensors are mounted to the brackets, pipe work and cables are connected. Pre-commissioning checks are made.
- Commissioning day 2
 - Making oil connections
 - Connection to power and air
 - Electrical connections – engine on/off and alarms
 - Loading software to PC
 - Configuring system

Installation steps

Survey | Pre-work | Fitting | Commissioning

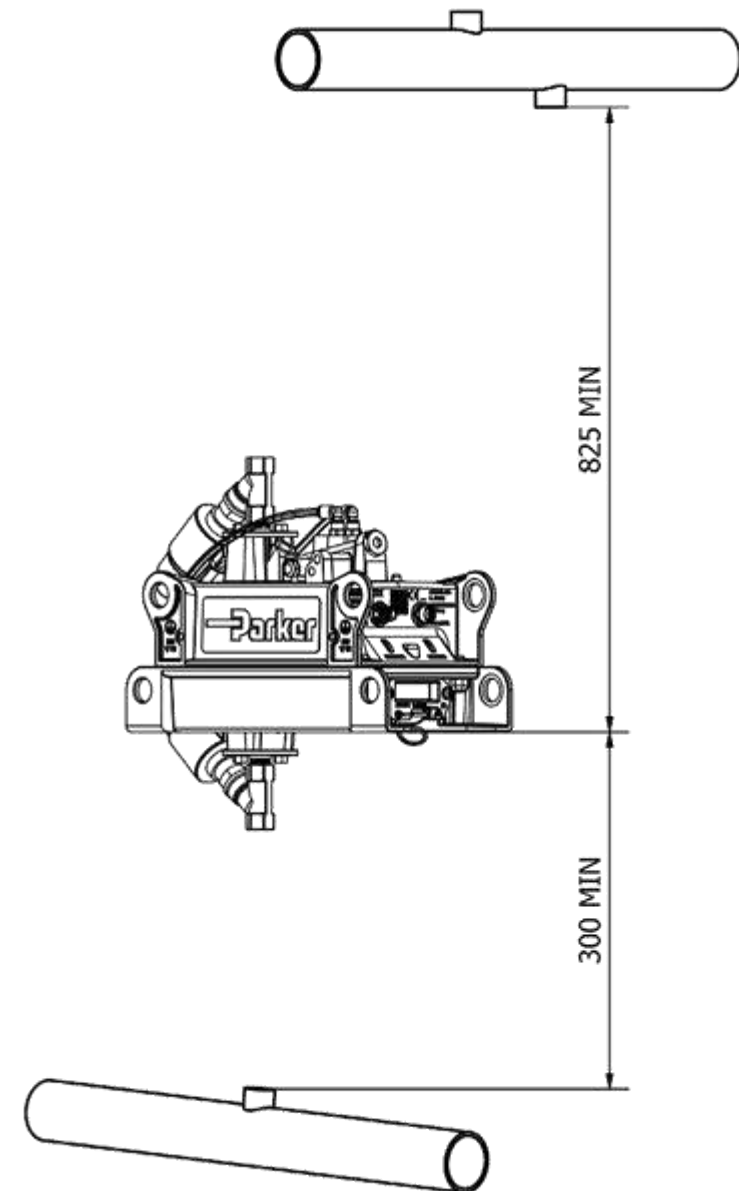
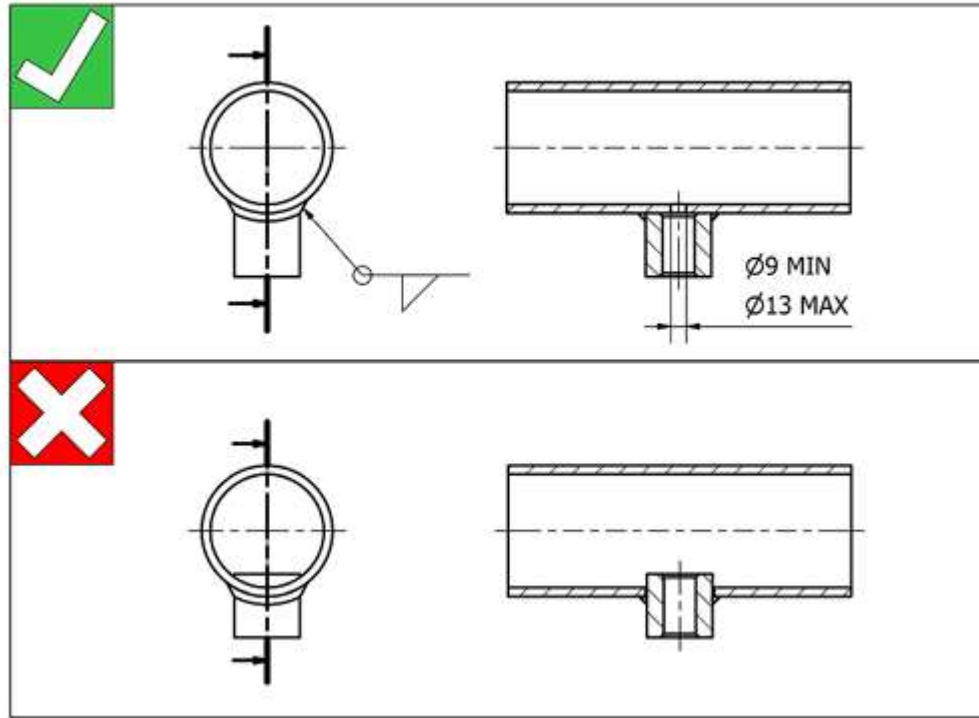
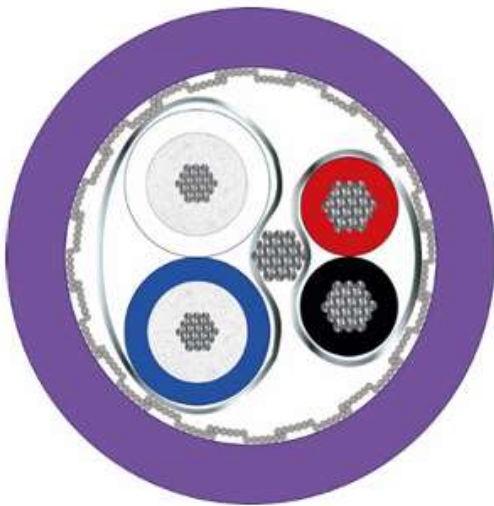


Figure 2

Installation steps

Survey | Pre-work | Fitting | Commissioning

Cable Specification	Manufacturers
1 x 2 x 15 AWG & 1 x 2 x 18 AWG DeviceNet / CAN Bus	Various

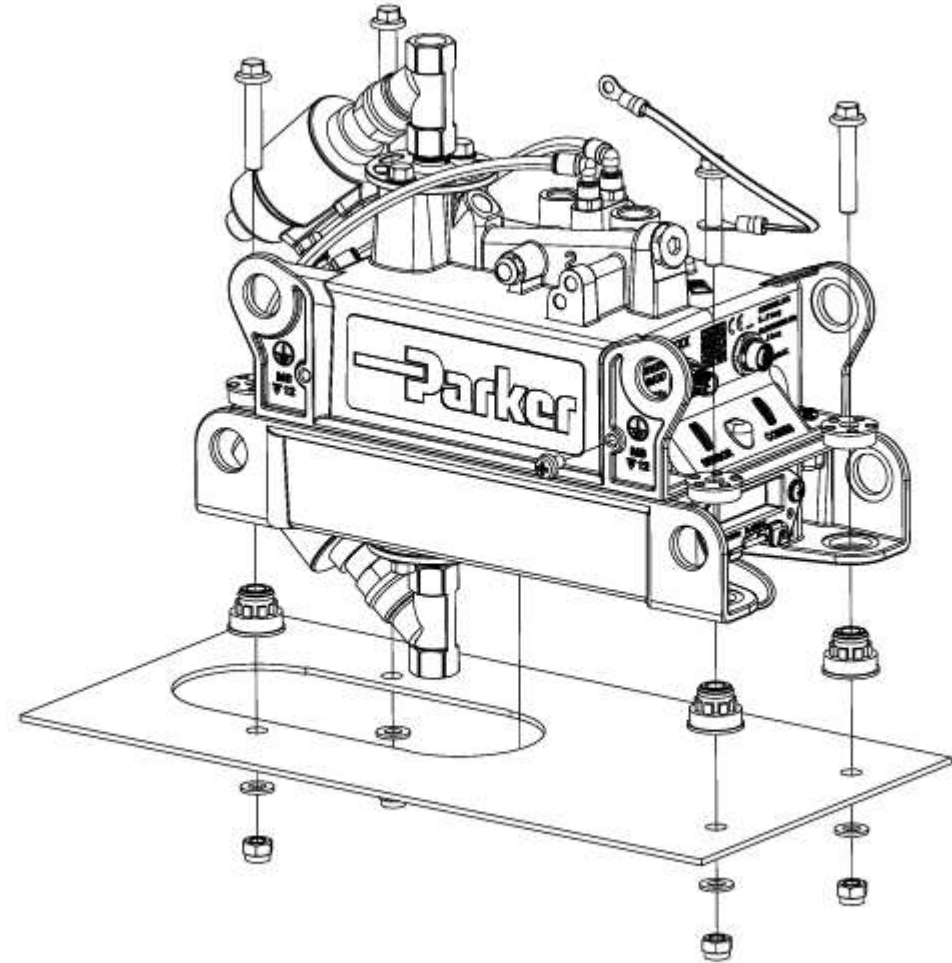
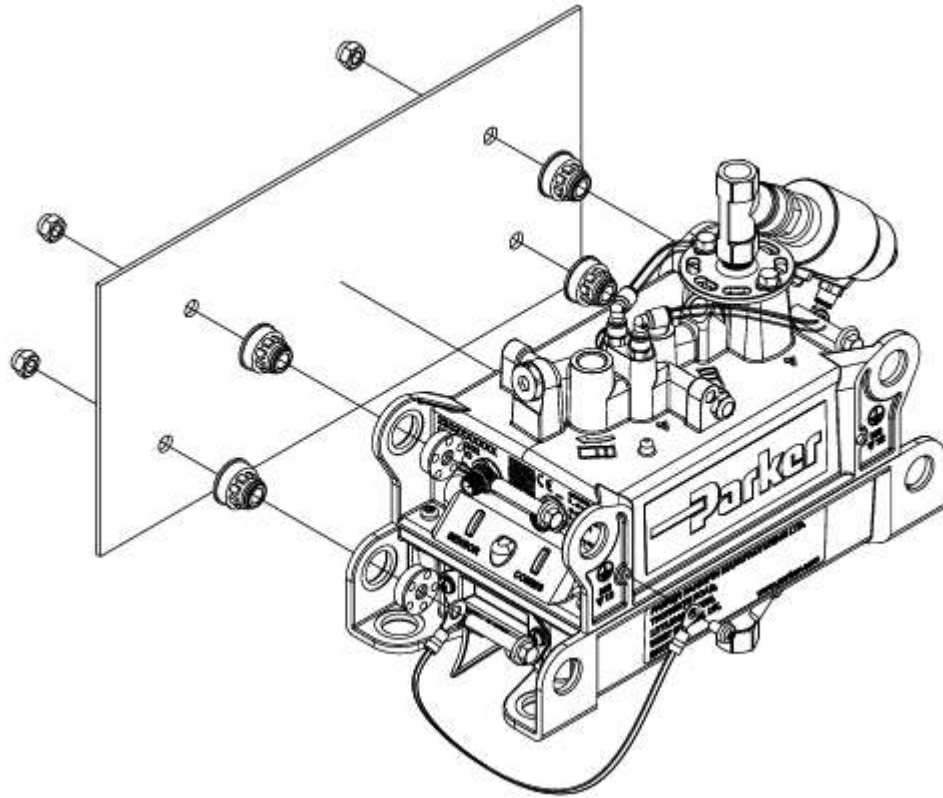


Example DeviceNet Cable

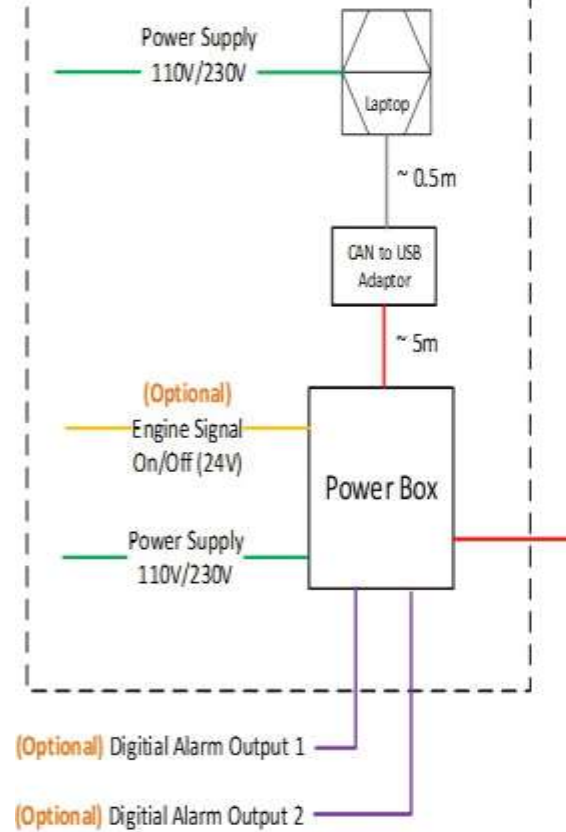
Compressed air type	Pressure/Flow	Specification
Engine Control Air	7-8 bar (300 l/min minimum free air delivery)	Compressed air to ISO 8573-1:2010 [7.4:4] • Particles – Class 7: allows a relatively high particle level (ISO defines this class by particle count up to 5 µm; commonly specified as up to 500,000 particles/m³ for ≤5 µm). • Water – Class 4: pressure dew point (PDP) ≤ +3°C (typical of a refrigerated dryer). • Oil – Class 4: total oil (aerosol + vapor + liquid) ≤ 5 mg/m³.
Control Input	4-6 bar	G1/4
Blowdown Air Input	Minimum: Scavenge Pressure + 3 bar Maximum: 8 bar	G3/8

Installation steps

Survey | Pre-work | Fitting | Commissioning



ENGINE CONTROL ROOM



KEY:

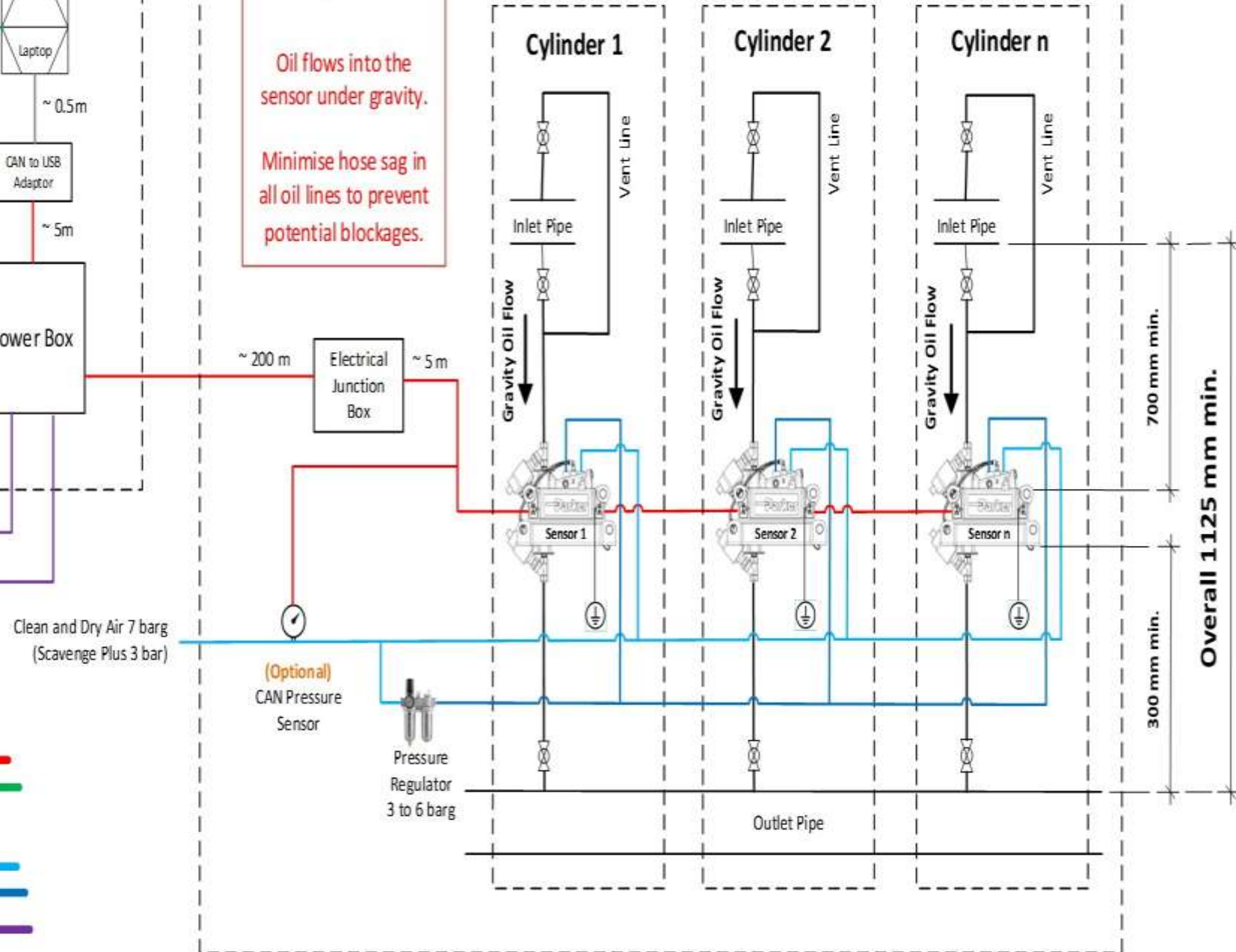
- Oil Lines —
- Power/CAN Cable —
- Mains Power Cable —
- Engine On/Off —
- USB Cable —
- Blowdown Air Line —
- ASV Control Air Line —
- Digital Alarm Output —

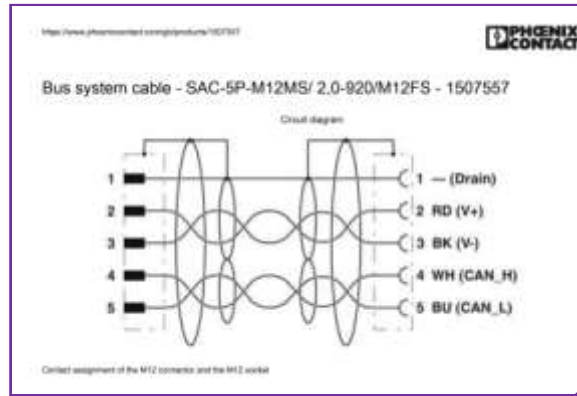
MAIN ENGINE

IMPORTANT!

Oil flows into the sensor under gravity.

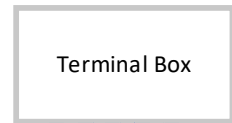
Minimise hose sag in all oil lines to prevent potential blockages.



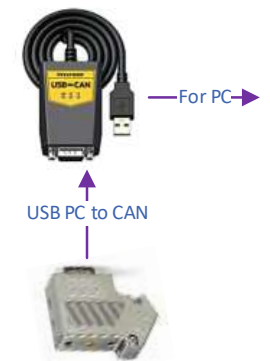


Interconnecting cable – M12 connectors

Terminator plug



CANbus data cable



I/O signal, or
4-20 mA, or
NEMA, or
Modbus etc...



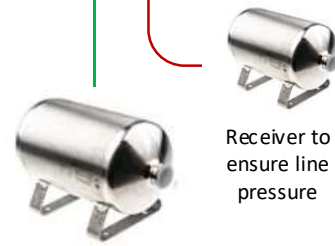
If not PC:
Direct to
HMI or SCADA
(no dongle)

24 V DC, 5 A supply (from 24 V distribution network), or
110/230 V AC if a power supply (AC adapter)
is located in terminal box

Engine on/off or RPM signal from sensor
(alternative if signal unavailable and one has to be created)

Air pressure sensor – used to alert if air lost or debug weak air-blast.
Could go into I/O CAN module in terminal box, maybe has CAN output
or use a wire pair in bus cable to take 4-20 mA signal to HMI.

Control Air = Blasting Air P + 2 Bar
[3/2 Valve max = set to 7 Bar]



Receiver to ensure
line pressure

Blasting Air = Scavenge P + 2 Bar
[set to 5.5 Bar as 1.5 Bar min is
needed to keep pinch valve closed.]



~8 Bar Working air

~8 Bar Working air



Commissioning steps

This procedure defines the required sequence for first-time power-up and commissioning.

- 1. Install software and apply supply power
- 2. Place the sensors in Run Mode & Confirm the LEDs indicate run Mode.
- 3. Turn On the Air Supply and check for leaks
 - Power Cycle and Restart the System
- 5. Open the Oil Line Valves
 - If the engine is not operational during commissioning, it's possible to manually fill
- 6. Check the software is updating



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