



2400 SERIES TACHOGRAPH APPLICATIONS

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APPENDIX A

2400 Series Tachograph Installation Components

2400 Tachograph	12V or 24V, 1 or 2 driver, 125, 140, 180 km/h
8 Pulse/Rev 4-wire Sender	9954-001
In-line sender	See Appendix B
Electronic Interface Adapter	7955-964 or 7955-937 or 7955-943 (L/Rover)
7450-330	Installation kit
7450-300	Sealing kit
6350-025	Mounting Tray

Installation Kit (7450-330) comprises:

Acorn	6450-061
Cage sleeve	6450-129
Universal mounting strip	6450-130
Palnut / Integral washer	6450-132
Power Harness	7450-360

Sealing Kit (7450-300) comprises:

Shroud connector sealing 2400	6450-046
Label – 'void if removed'	6450-133
Sealing plug	6952-377
Label 'K'-factor	6953-266
Coverlay for 'K'-factor label	6953-267
Cover clip	6450-091

2400 Tachograph Types

Form Number	Description
2414 KBA (Distributor Type)	12V, 125km/h, 1-day, 1-driver
2414 KHA	12V, 140km/h, 1-day, 1-driver
2414 KTA	12V, 180km/h, 1-day, 1-driver
2414 KAA	24V, 125km/h, 1-day, 1-driver
2414 KGA	24V, 140km/h, 1-day, 1-driver
2414 KSA	24V, 180km/h, 1-day, 1-driver
2416 KBA	12V, 125km/h, 1-day, 2-driver
2416 KHA	12V, 140km/h, 1-day, 2-driver
2416 KTA	12V, 180km/h, 1-day, 2-driver
2416 KAA	24V, 125km/h, 1-day, 2-driver
2416 KGA	24V, 140km/h, 1-day, 2-driver
2416 KSA	24V, 180km/h, 1-day, 2-driver
2416 GEA (DaimlerChrysler)	12V, 125km/h, 1-day, 2-driver, No LCD, Yellow LED
2416 GAA (DaimlerChrysler)	24V, 125km/h, 1-day, 2-driver, Yellow LED
2416 GEA (DaimlerChrysler)	24V, 125km/h, 1-day, 2-driver, Green LED
2416 FTP	12V, 180km/h, 1-day, 2-driver, Green LED
2406 ITA (Iveco)	12V, 180km/h, 1-day, 2-driver, Green LED
2406 IAA (Iveco)	24V, 125km/h, 1-day, 2-driver, Green LED
2416 MAC (MAN)	24V, 125km/h, 1-day, 2-driver, Amber LED
2416 RVK (Renault)	12V, 180km/h, 1-day, 2-driver, Orange LED
2416 REA (Renault)	24V, 125km/h, 1-day, 2-driver, No LCD, Orange LED
2416 RKA (Renault)	24V, 140km/h, 1-day, 2-driver, No LCD, Orange LED

Note that:

To calibrate and program any of the 2400 series tachographs, the MKII Tachograph Programmer is required (**7955-975**). The MKII Programmer can be used with **ALL** electronic tachographs ie: VR **2400**, 8400, 8300, 1400 as well as competitor's **1324**, 1319, 1318, 1314 and the Motometer EGK-100.

VEHICLE MAKE & MODEL	BMW X5 (with ABS) (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/001.0 (Jan 2001)



**BMW
Instrument
Cluster**



B7

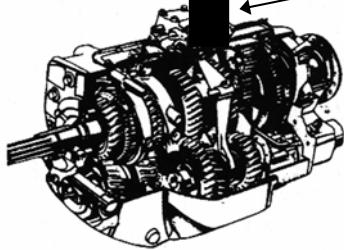


B3



7955-964

Sender



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. The electrics can be picked up from an illumination switch; (there is permanent power here).

The speed signal to feed the tachograph should be taken from the ABS source.
There is a floor panel at the back on the left hand side. The speed signal can be accessed from here.

Using single wire adapter 7955-964, couple into speed signal wire from ABS source. The speed signal should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.

Mount the tachograph in a suitable location for extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-9984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Up-Date information.

VEHICLE MAKE & MODEL	CHRYSLER JEEP CHEROKEE (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/002.0 (Jan 2001)



**Cherokee
Instrument
Cluster**



B7

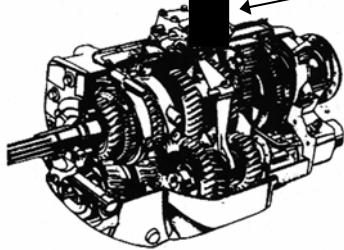


B3



7955-964

Sender



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. The electrics can be picked up from an illumination switch; (there is permanent power here).

The speed signal to feed the tachograph is taken before the Engine Management System.

Using single wire adapter 7955-964, couple into a **White or White/Orange** signal wire at gearbox sender, using heat shrink around armoured cable and sender wire. The new wire should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.

Mount the tachograph in a suitable location for extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-9984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Up-Date information.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER TRUCKS (OEM) (Sheet 1/2)
YEAR	2000
VOLTAGE	24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (OEM fitment)	No. 2400/TA/003.0 (Jan 2001)

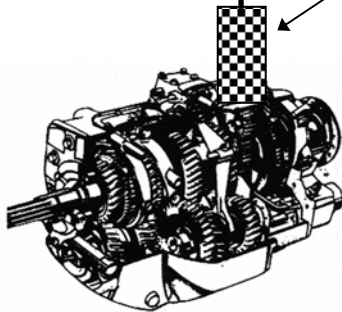


To Actros
instrument
cluster



Encrypted
Sender

B3



Tachograph: (Actros) 2416 GAA (24V, 125km/h, 1-day, 2-driver)
 (Actros MP2) 2416GCA
 (Atego/Axor) 2416GEA (No Display.)

Sender: Encrypted Sender (25.0 mm)

TACHOGRAPH PARAMETER	VALUE
K-Factor	8 000
Odometer	0.0 km
Low Power Band	700 Revs/min
Economy Band	900 Revs/min
Poor Economy	1100 Revs/min
CANBus RPM	On
Revs Source	CANBus
Over Speed Limit	80 km/h
Overspeed Display Flash	Disabled
Current time	:00:00
Current date	:14/05/2000
4 th Trace (Event / Engine Revs)	Disabled
Speed Sender Type	Encrypted
CANBus Setting	Enabled
Dual Axle Enable Setting	Disabled
Serial Stream Format	Standard
Ignition On Joggle Setting	Disabled
Pin D6 Configuration	Disabled
DTC Display Setting	Enabled
Auto Crew Duty	Disabled
ECU Installation Date	850101
Service Delay	104

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER TRUCKS (OEM) (Sheet 2/2)
YEAR	2000
VOLTAGE	24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (OEM fitment)	No. 2400/TA/003.0 (Jan 2001)

TACHO CONTROL – Pair Sender

The 2400 Tachograph must be “paired“ to the MERCEDES encrypted sender unique to this vehicle.

In this way, the tachograph is matched to the encrypted sender on this vehicle thus eliminating the need for armoured cable and sealing.

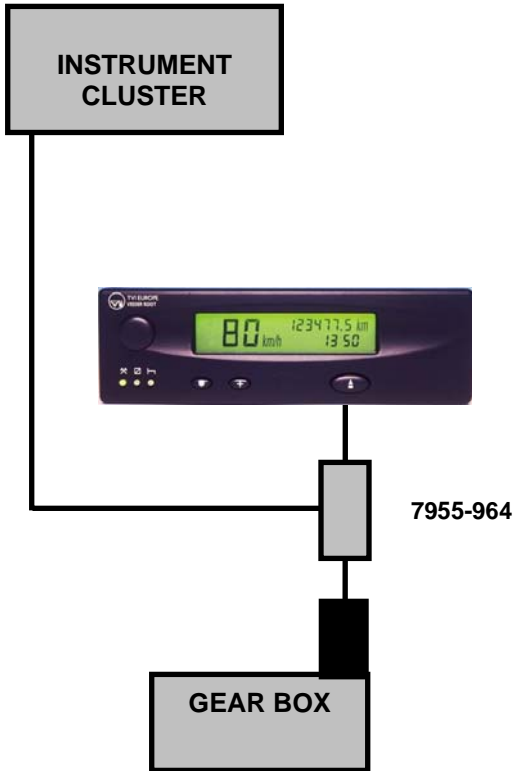
If the encrypted sender is changed or the tachograph is installed into a different vehicle, then a DTC code (A822) appears on the display of the tachograph.

Use the MKII Tachograph Programmer (7955-975) to pair the tachograph to the encrypted sender, go to the Tacho Control submenu located in the VR2400 Main Menu. Select the PAIR SENDER option and press the Enter key on the MKII Programmer to complete the command.

Note that: When paired to the encrypted sender, the tachograph recognizes only that sender. The signal from the sender becomes unique to that tachograph.

Up-Date information.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER SPRINTER 214, 208D, 212D, 308D, 312D, 412D (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/004.0 (Jan 2001)



Tachograph:	2416 KTA H01 (12V, 180km/h, 1-day, 2-driver)	
Sender:	Existing	
Interface:	7955-937 (Electronic Interface – Twin output)	
Accessories:	Sealing Kit	(7450-300)
	Installation Kit	(7450-330)
	Mounting Tray	(6350-025)

Fitting Instructions:

Check all electrics are working. Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

The 2400 tachograph can be mounted under the glove box using the standard installation kit (7450-330) included with the tachograph kit. Remove the dash panel by removing the 4 retaining screws – 2 at the glove box, 1 under the RH speaker and 1 under dummy radio panel.

Connect the power harness to the radio connector (if the radio is disconnected, the radio code must be noted) as follows:

Red/Yellow	– Battery +ve
Brown	– Battery –ve
Red/Black	– Ignition
Grey/Green	– Illumination

The speed signal is taken from the White wire in the Black plug on the Speedo. This wire should be terminated within the interface of the Mercedes electronic interface 7955-937 as shown:

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

It should be noted that from July 1997, the Mercedes Sprinter ABS/ABD control module (V5.3) has been supplied with new settings. This means that it is not possible to drive a Sprinter on the "Rolling Road" until the following action has been taken:

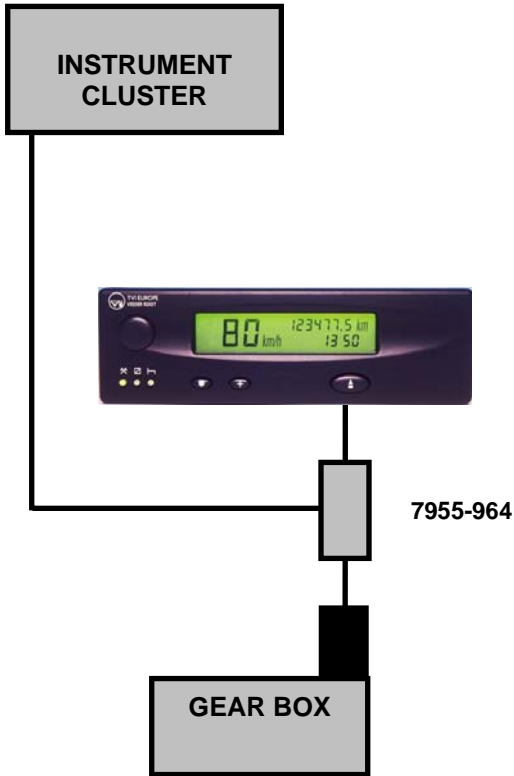
- Located in the base of the Driver's seat frame is a fuse box.
- Remove the 60A fuse (F6).
- It is now possible to run the vehicle on the "Rolling Road" and carry out any calibration or other checks as required.

On completion of testing –

- Remove the vehicle from the "Rolling Road" BEFORE re-fitting the fuse (F6).

Up-Date information. Interface box is now 7955-964.
Mercedes Part No. for the cable & sender assembly for the sprinter is A 013 542 34 17.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER SPRINTER 316, 414 CDI (No ABS) (Sheet 1/2)
YEAR	02/2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/005.0 (Jan 2001)



Tachograph:	2416 KTA H01 (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation into the Sprinter.
Take standard precautions prior to commencing installation.

From the connector sleeve at the rear of the dashboard locate the following points:

A1 = permanent power = circuit **30** on fused connector sleeve
A2 = illumination supply = circuit **58** connector sleeve
A3 = ignition supply = circuit **15** connector sleeve
A5 = battery negative = circuit **31** connector sleeve
A6 = GND = circuit **31a** connector sleeve

The speed signal is taken from the **GREEN** wire located in the cluster at the rear of the speedometer.
Couple into the **GREEN** wire using permanent connection method to supply speed signal source to the 2400 tachograph. This wire should be terminated on pin B3 electronic interface 7955-964.

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The 2400 tachograph can be fitted in the vacant radio slot located just above the ashtray in the dashboard (see picture on reverse side).

Configure the parameters of the 2400 tachograph using the MKII Programmer (parameters shown on reverse of this sheet). Seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER SPRINTER 316, 414 CDI (No ABS) (Sheet 2/2)
YEAR	02/2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/005.0 (Jan 2001)



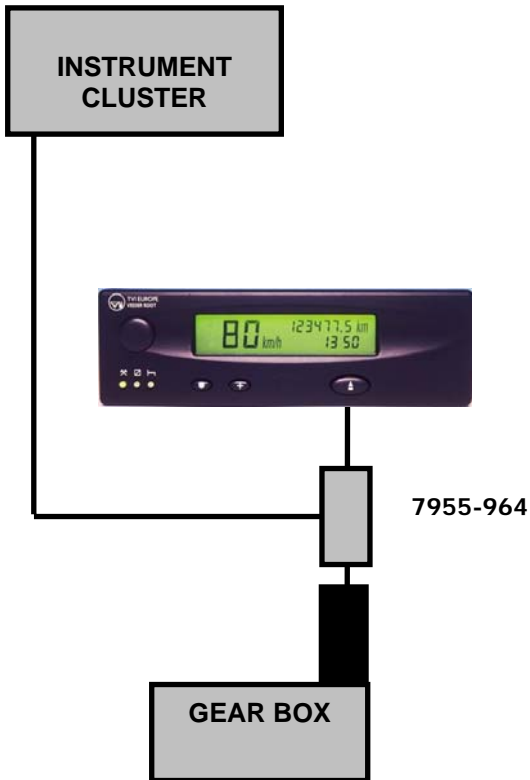
Table 1: 2400 Tachograph Parameters for Mercedes Sprinter 316, 414 CDI

TACHOGRAPH PARAMETER	VALUE
K-Factor	8 000 (factory setting, varies with vehicle)
Odometer	0.0
Pulses per Rev	19.000
CANBus RPM	Off
RPM display	Off
Over Speed Limit	80 km/h
Current time	:10:35 (for example)
Current date	:14/05/2000 (for example)
4 th Trace (Event / Engines Revs)	Off
Sender Type	Encrypted
CANBus Type	Mercedes
Dual Axle	Off
Dual Axle Ratio	N/A
Serial Comms	Standard Data
Ignition On Record	Off
VIN	:

Up-Date information.

Mercedes Part No. for the cable & sender assembly for the sprinter is A 013 17.542 34

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER SPRINTER 313, 416 CDI (ABS) (Sheet 1/3)
YEAR	02/2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/006.0 (Jan 2001)



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation into the Sprinter.

Take standard precautions prior to commencing installation.

From the connector sleeve at the rear of the dashboard locate the following points:

A1 = permanent power =	circuit 30 on fused connector sleeve
A2 = illumination supply =	circuit 58 connector sleeve
A3 = ignition supply =	circuit 15 connector sleeve
A5 = battery negative =	circuit 31 connector sleeve
A6 = GND =	circuit 31a connector sleeve

Locate **WHITE 18-pin connector** at the rear of the instrument panel. Run a wire from **Pin 9** (this may be blank) and use this as the speed signal source to the 2400 tachograph.

Note that: To obtain a W-factor with the TVI Programmer all four wheels need to be in motion. This would require the **Sprinter 313, 416 Cdi** to be driven a short distance at 50 km/h.

The wire from Pin 9 should be terminated on B3 interface 7955-964.

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The 2400 tachograph can be fitted in the vacant radio slot located just above the ashtray in the dashboard (see picture on reverse side).

Configure the parameters of the 2400 tachograph using the MKII Programmer (parameters shown on reverse of this sheet). Seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER SPRINTER 313, 416 CDI (ABS) (Sheet 2/3)
YEAR	02/2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/006.0 (Jan 2001)



Table 1: 2400 Tachograph Parameters for Mercedes Sprinter 316, 414 CDI

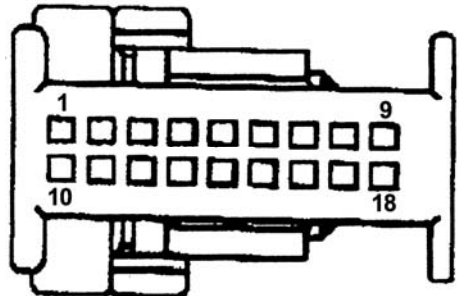
TACHOGRAPH PARAMETER	VALUE
K-Factor	8 000 (factory setting, varies with vehicle)
Odometer	0.0
Pulses per Rev	19.000
CANBus RPM	Off
RPM display	Off
Over Speed Limit	80 km/h
Current time	:10:35 (for example)
Current date	:14/05/2000 (for example)
4 th Trace (Event / Engines Revs)	Off
Sender Type	Encrypted
CANBus Type	Mercedes
Dual Axle	Off
Dual Axle Ratio	N/A
Serial Comms	Standard Data
Ignition On Record	Off
VIN	:

Up-Date information.

Mercedes Part No. for the cable & sender assembly for the sprinter is A 013 17.542 34

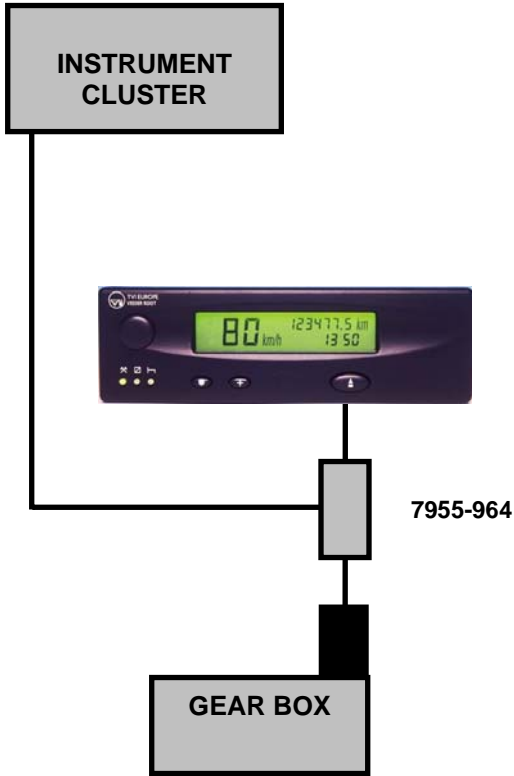
313 CDI (2003) SPEED SIGNAL:- PLUG 1 (18 PIN BLACK) SOLID WHITE WIRE.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER SPRINTER 313, 416 CDI (ABS) (Sheet 3/3)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/006.0 (Jan 2001)



WHITE CONNECTOR (18-Pin)	
1	Reversing Aid
2	Brake Switch
3	Terminal 30 Battery +
4	Brake Pad
5	Terminal 31 GND
6	Terminal 31 GND
7	Terminal 58 Light +
8	Terminal 56a Main Beam
9	VEHICLE SPEED SIGNAL OUTPUT
10	Terminal 15 Ignition
11	'Ignition key inserted' input
12	Stop lamp switch
13	Left Turn signal
14	Brake fluid level
15	Terminal 61 Generator
16	Airbag
17	Rear foglight
18	D+ relay output

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER VITO (No ABS) (Sheet 1/2)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/007.0 (Jan 2001)



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation into the Sprinter.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. Could use terminal block mounted under driver's seat.

The speed signal is taken from **Plug No. 2 Pin No. 4** located at the rear of the speedometer.

Couple into the speed signal wire using permanent connection method to supply speed signal source to the 2400 tachograph. This wire should be connected to B3 of the electronic interface 7955-964.

Mount the tachograph in a suitable location for extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Configure the parameters of the 2400 tachograph using the MKII Programmer (parameters shown on reverse of this sheet). Seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Up-Date information. (2005 Spec.) speed signal on pin 13 on only plug at the rear of the speedo.

VEHICLE MAKE & MODEL	DAIMLER CHRYSLER VITO (No ABS) (Sheet 2/2)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/007.0 (Jan 2001)

Table 1: 2400 Tachograph Parameters for Mercedes Vito

TACHOGRAPH PARAMETER	VALUE
K-Factor	8 000 (factory setting)
Odometer	0.0
Pulses per Rev	19.000
CANBus RPM	Off
RPM display	Off
Over Speed Limit	80 km/h
Current time	:10:35 (for example)
Current date	:14/05/2000 (for example)
4 th Trace (Event / Engines Revs)	Off
Sender Type	Encrypted
CANBus Type	Mercedes
Dual Axle	Off
Dual Axle Ratio	N/A
Serial Comms	Standard Data
Ignition On Record	Off
VIN	:

VEHICLE MAKE & MODEL	FORD RANGER (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/008.0 (Jan 2001)



Ford Instrument Cluster



B7

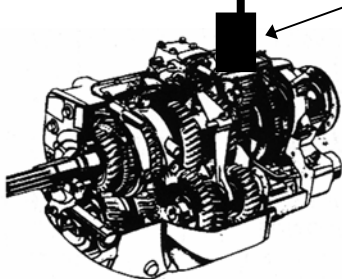


B3



7955-964

Sender



Tachograph:	2416 KBA (12V, 125km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Follow the sender towards the gearbox end.
It is difficult to gain access to the rear of the existing speedometer.
There is a small black plug near the gearbox end of the sender.

THERE ARE TWO SPEED SIGNAL WIRES:

One is **BLUE with WHITE RINGS** and the other is **BLUE with a White TRACE**.
The **Speed Signal** should be taken as the **BLUE with WHITE RINGS** and the other should be Earthed.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Fit the tachograph in a suitable position on the dashboard.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.



Up-date information.

VEHICLE MAKE & MODEL	FORD TRANSIT (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/009.0 (Jan 2001)



Ford
Instrument
Cluster



B7

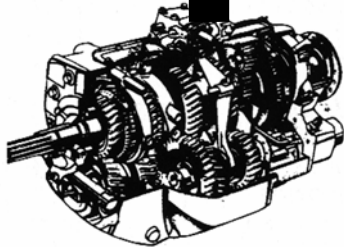


B3



7955-964

Sender



Tachograph: 2416 FTP, 2416FVP, 2416FXP, (12V, 180km/h, 1-day, 2-driver)

Sender: Existing

Interface: 7955-964 (Electronic Interface)

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. Could use terminal block mounted under driver's seat.

Remove instrument cowling; expose speedometer signal wire (**White/Blue**, Pin 5 from bottom of the black plug).

Couple into **White/Blue** wire using permanent connection method to supply speed signal source to the 2400 tachograph. This wire should be terminated using Pin 3 of plug 2714-266 (B3) then introduce into a single wire adapter, 7955-964.

Mount the tachograph in a suitable location for extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-9984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	FORD TRANSIT 2000 (Sheet 1/2)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/010.0 (Jan 2001)



Ford
Instrument
Cluster



B7

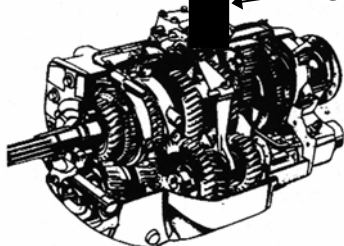


B3



7955-964

Sender



Tachograph: 2416FTP, 2416FVP, 2416FXP, (12V, 180km/h, 1-day, 2-driver)

Sender: Existing
Interface: 7955-964 (Electronic Interface)
Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray: (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Remove instrument cowling. On the Ford Transit 2000 the speed signal is taken from the connector block at the back of the instrument panel . It is a **MAUVE / WHITE** wire.

Couple into **MAUVE / WHITE** wire using permanent connection method to supply speed signal source to the 2400 tachograph. This wire should be terminated using Pin 3 of plug 2714-266 (B3) then introduce into a single wire adapter, 7955-964.

Mount the tachograph in a suitable location (vacant radio slot if available) or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-9984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Up-Date information. (Speed pulse tapping locations.)

July 2003. Right hand plug Orange/Black.

September 2003. Transit 125 T350 (Same as LDV) ECU connector Pin 38 under bonnet, passenger side.

2004/2005 model. Under bonnet, passenger side.. Connector between headlight & radiator. Blue/White wire nearest radiator. (Pin 13).

VEHICLE MAKE & MODEL	FORD TRANSIT 2000 (Sheet 2/2)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/010.0 (Jan 2001)



Table 2: 2400 Tachograph Parameters for Ford Transit 2000

TACHOGRAPH PARAMETER	VALUE
K-Factor	16 798 (Factory setting)
Odometer	0.0 km
Low Power Band	700 Revs/min
Economy Band	900 Revs/min
Poor Economy	1100 Revs/min
CANBus RPM	Not applicable
Revs Source	Revs Sender
Over Speed Limit	80 km/h
Overspeed Display Flash	Disabled
Current time	00:00:00
Current date	:14/05/2000
4 th Trace (Event / Engine Revs)	Disabled
Speed Sender Type	Encrypted
Dual Axle Enable Setting	Disabled
Serial Stream Format	Standard
Ignition On Joggle Setting	Disabled
Pin D6 Configuration	Speedometer Output
DTC Display Setting	Enabled
Speedo Output factor	4971 pulses/km
Auto Crew Duty	Disabled
ECU Installation Date	850101
Service Delay	104
DTC Display Setting	Disabled

Additional Information. Ford Transit senders:- 9954-112 & 9954-142 (6-speed box).

Ford POD part No.s :- 4125383, 4048128, 1012907, 4111359. (Available from Ford.)

VEHICLE MAKE & MODEL	FORD TRANSIT 2000 (OEM) (Rear Wheel Drive) (Sheet 1/2)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (OEM fitment)	No. 2400/TA/011.0 (Jan 2001)

Tachograph: 2416 FTP (12V, 180km/h, 1-day, 2-driver, Green LEDs)
 Sender: Encrypted (19.8 mm – TVI Part No. 9954-112))



To Ford speedometer

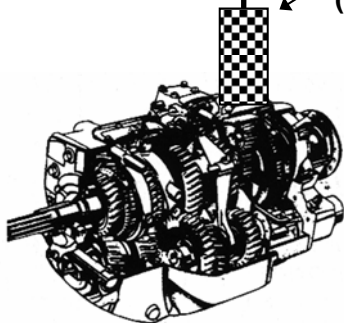


D6



B3

Encrypted Sender (9954-112)



TACHOGRAPH PARAMETER	VALUE
K-Factor	16 798
Odometer	0.0
Pulses per Rev	19.000
Low Power Band	700 Revs/min
Economy Band	900 Revs/min
Poor Economy	1100 Revs/min
CANBus RPM	Off
RPM display	Off
Over Speed Limit	80 km/h
Current time	:10:35
Current date	:14/05/2000
4 th Trace (Event / Engine Revs)	Off
Sender Type	Encrypted
CANBus enabled	Off
Dual Axle	Off
Dual Axle Ratio	N/A
Serial Comms	Standard Data
Ignition On Record	Off
VIN	:
Speedometer output factor	4971

VEHICLE MAKE & MODEL	FORD TRANSIT 2000 (OEM) (Sheet 2/2)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (OEM fitment)	No. 2400/TA/011.0 (Jan 2001)



TACHO CONTROL – Paired Sender

The 2400 Tachograph is “paired” to the FORD encrypted sender unique to this vehicle.

In this way, the tachograph is matched to the encrypted sender on this vehicle thus eliminating the need for armoured cable and sealing.

If the encrypted sender is changed or the tachograph is installed into a different vehicle, then a DTC code (A822) appears on the display of the tachograph.

Use the TVI MKII Tachograph Programmer (7955-975) to pair the tachograph to the encrypted sender, go to the Tacho Control submenu located in the VR2400 Main Menu. Select the PAIR SENDER option and press the Enter key on the MKII Programmer to complete the command.

Note that: When paired to the encrypted sender, the tachograph recognizes only that sender. The signal from the sender becomes unique to that tachograph.

VEHICLE MAKE & MODEL	ISUZU TROOPER (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/012.0 (Jan 2001)



Instrument Cluster



B7

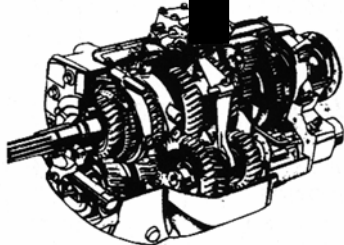


B3



7955-964

Sender



Tachograph:	2416 KBA (12V, 125km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)
Fitting Instructions:	
<p>Check all electrics are working. Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.</p> <p>Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. Could use terminal block mounted under driver's seat.</p> <p>Using single wire adapter 7955-964, couple into Green wire with a thin White line located on a cluster marked SM/PI at the rear of the instrument panel. The new wire should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.</p> <p>Mount the tachograph in a suitable location for extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.</p> <p>Two grommets situated beneath gear-lever cover will allow access for sender cable into cab.</p> <p>Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-9984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.</p> <p>Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.</p> <p>Road test the vehicle.</p>	

<u>Additional Information</u>

VEHICLE MAKE & MODEL	ISUZU TFR 69 (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/013.0 (Jan 2001)



Instrument Cluster



B7

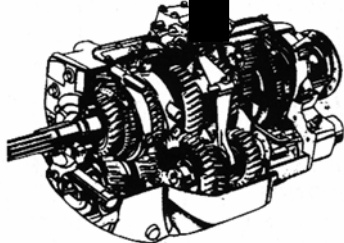


B3



7955-964

Sender



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Part Number:	7955-964
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)
Fitting Instructions:	
Check all electrics are working. Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.	
Take standard precautions prior to commencing installation.	
Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.	
Using single wire adapter 7955-964, couple into BLUE/BLACK wire located behind a panel near the gearstick. The new wire should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.	
Mount the tachograph in a suitable location such as an extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.	
Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.	
Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.	
Road test the vehicle.	

Up-Date Information.

VEHICLE MAKE & MODEL	ISUZU NKR (Sheet 1/1)
YEAR	2000
VOLTAGE	24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/013.5 (Jan 2001)



Instrument Cluster

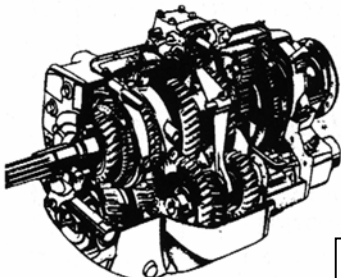


B7



B3

7955-964



Tachograph:	2416 KAA (24V, 125km/h, 1-day, 2-driver)	
Sender:	Existing	
Part Number:	7955-964	
Accessories:	Sealing Kit	(7450-300)
	Installation Kit	(7450-330)
	Mounting Tray	(6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.

Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Using single wire adapter 7955-964, couple into speed signal.

Mount the tachograph in a suitable location such as an extra radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Up-date Information.

VEHICLE MAKE & MODEL	IVECO DAILY (Sheet 1/2)
YEAR	1998
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/014.0 (Jan 2001)



Instrument Cluster



B7

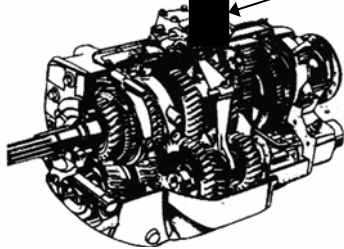


B3



7955-964

Sender



Tachograph:	2406 ITA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

1. Remove lower radio slot blanking tray.
2. Tacho A (white), B (yellow) and D (brown) plugs are then exposed.
3. Remove linking plugs.
4. Move D6 wire to B7.
5. Insert plugs to tachograph and fit into slot.
6. As the sender wire is non-armoured, a 19.8mm encrypted sender (TVI Part No. 9954-122) must now replace the existing non-encrypted sender.
7. Pair sender, (see note on Sheet 2/2).

Wiring is as follows:

A1	Permanent power	Red (+ve)
A2	Illumination supply	Brown (+ve)
A3	Ignition supply	Orange (+ve)
A5	Battery minus	Brown (-ve)
A6	Ground	Brown (-ve)
B1	Speed sender (+ve)	Orange
B2	Speed sender (-ve)	Brown
B3	Sender pulses	Orange
B4	Sender Comp. Pulse & Data	Orange
D4	General warning output	White
D6	Speed pulses	Orange
D7	Serial line	White

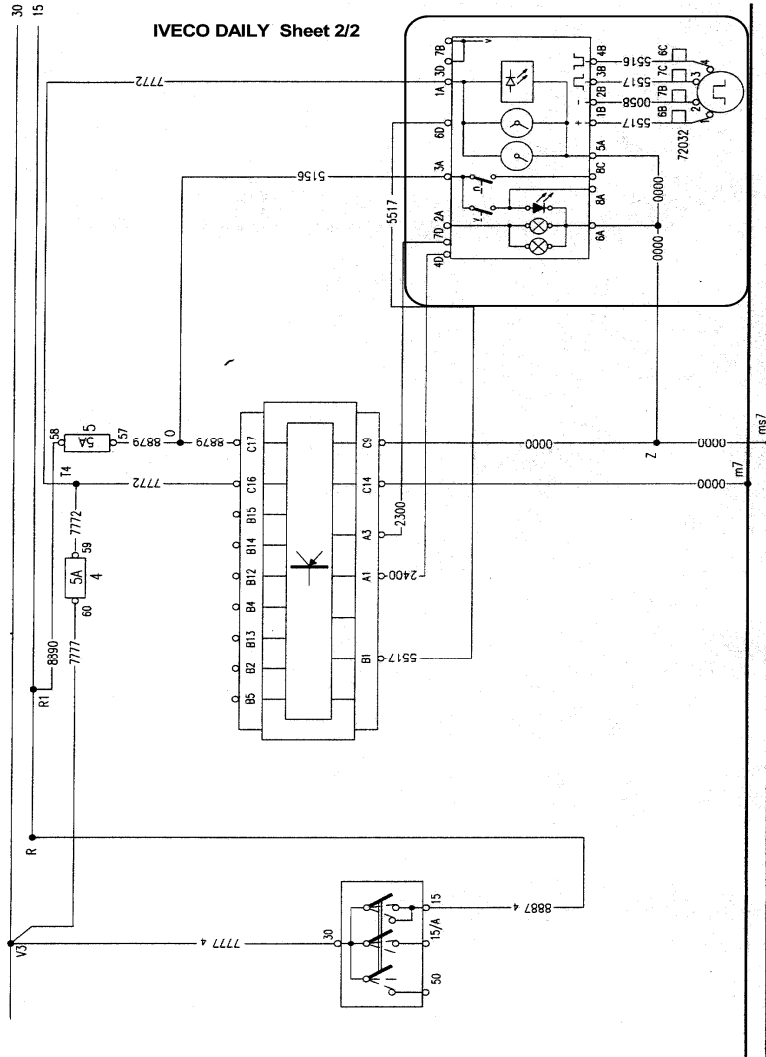
Obtain the "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Up-date Information.

VEHICLE MAKE & MODEL	IVECO DAILY (Sheet 2/2)
YEAR	1998
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/014.0 (Jan 2001)



TACHO CONTROL – Pair Sender

The 2400 Tachograph must be “paired” to the encrypted sender unique to this vehicle.

In this way, the tachograph is matched to the encrypted sender on this vehicle thus eliminating the need for armoured cable and sealing.

If the encrypted sender is changed or the tachograph is installed into a different vehicle, then a DTC code (A822) appears on the display of the tachograph.

Use the MKII Tachograph Programmer (7955-975) to pair the tachograph to the encrypted sender, go to the Tacho Control submenu located in the VR2400 Main Menu. Select the PAIR SENDER option and press the Enter key on the MKII Programmer to complete the command.

Note that: When paired to the encrypted sender, the tachograph recognizes only that sender. The signal from the sender becomes unique to that tachograph.

VEHICLE MAKE & MODEL	IVECO (NEW) DAILY 2000 (Sheet 1/1)
YEAR	2000
VOLTAGE	12V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/015.0 (Jan 2001)



Tachograph:	2406ITA (12V, 180km/h, 1-day, 2-driver)
Sender:	Encrypted (9954-122)
Interface:	N/A
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330)

Fitting Instructions:

Check all electrics are working.

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Replace existing sender with TVI encrypted version (9954-122).

1. Remove lower radio slot blanking tray.
2. Tacho A (white), B (yellow) and D (brown) plugs are then exposed.
3. Remove linking plugs.
4. Move D6 wire to B7.
5. Insert plugs to tachograph and fit into slot.
6. As the sender wire is non-armoured, a 19.8mm encrypted sender (TVI Part No. 9954-122) must now replace the existing non-encrypted sender.
7. Connect speedometer output.
8. Pair sender using the MKII Programmer (7955-975).

TACHO CONTROL – Pair Sender

The 2400 Tachograph must be “paired” to the encrypted sender unique to this vehicle.

In this way, the tachograph is matched to the encrypted sender on this vehicle thus eliminating the need for armoured cable and sealing.

If the encrypted sender is changed or the tachograph is installed into a different vehicle, then a DTC code (A822) appears on the display of the tachograph. Use the MKII Tachograph Programmer (7955-975) to pair the tachograph to the encrypted sender, go to the Tacho Control submenu located in the VR2400 Main Menu. Select the PAIR SENDER option and press the Enter key on the MKII Programmer to complete the command.

Note that: When paired to the encrypted sender, the tachograph recognizes only that sender. The signal from the sender becomes unique to that tachograph.

Mount the tachograph in a suitable location for example a vacant radio slot or on top of the dashboard with Mounting tray (6350-025). And insert “A” and “B” plugs.

Obtain “K”-factor using the MKII Programmer (7955-975) and the “G” lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

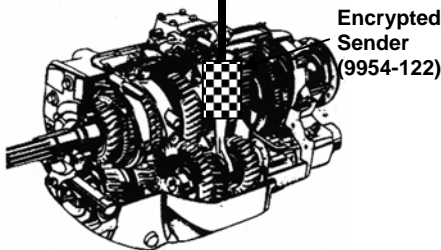
Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

Iveco
Instrument
Cluster



B3 ↑



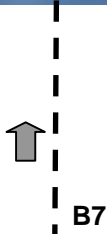
Additional Information. (2000-on.) 1. Connect Speedo to D6. 2. Set pin D6 to Speedometer output. 3. Set speedo output factor to ‘K’ factor/2 (ie. 1/2 x ‘k’)

Note:- If R/Rd & tacho speed differs from speedo, adjust the speedo o/put factor for the tacho.

VEHICLE MAKE & MODEL	LANDROVER DEFENDER 110 (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/016.0 (Jan 2001)



LandRover
Instrument
cluster



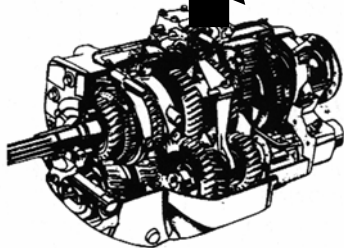
B3



7955-964



Sender



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)	
Sender:	Existing	
Interface:	7955-964 (Electronic Interface)	
Accessories:	Sealing Kit	(7450-300)
	Installation Kit	(7450-330)
	Mounting Tray	(6350-025)

Fitting Instructions:

Check all electrics are working.

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard safety precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Disconnect battery; wait 30 minutes before disconnecting any wiring connections – to allow for the air bags to return to a safe state.

Do not use a multimeter with its own power source, this could trigger interference with air bags or seat belt tensioners.

Locate the light grey male receptacle housing at the rear of the instrument pack. This is the main harness to the instrument pack harness. This is a 14-way connector (YPC10592).

Connect the power harness (7450-360) to the 14-way connector as follows:

Cavity	Colour	Description
1	WG	Ignition
4	RO	Illumination
9	B	Ground
10	BR	Speed Signal

Using single wire adapter 7955-964, couple into the **Black/Red** signal wire at the gearbox sender using heat shrink around armoured cable and sender wire.

Obtain K-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph.
Ensure a good earth to the Programmer.

Mount the 2400 tachograph in a suitable position using the Mounting bracket (6350-025) if necessary.

Program the correct K-factor as indicated by the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test vehicle.

Up-date Information. Same installation for 2004.

VEHICLE MAKE & MODEL	LANDROVER DISCOVERY (without ABS) (Sheet 1/1)
YEAR	1996+
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/017.0 (Jan 2001)



LandRover
Instrument
Cluster



B7

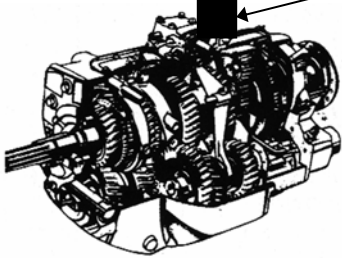


B3



7955-964

Sender



Tachograph:	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)
Fitting Instructions:	
Check all electrics are working.	
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard safety precautions prior to commencing installation.	
Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. Fuse box is located below O/S of dash.	
Remove instrument panel cowling; expose speedometer signal wire, (Black/Red Pin No2 on dash termination block). Cut into Black/Red signal wire, using a permanent connection method to supply signal source to the tachograph.	
This wire should be terminated using Pin No.3 of plug 2714-266 then introduced into the Electronic Interface Adapter 7955-964. Return from tachograph output pin B7 to the Speedo.	
Mount the tachograph in a suitable position in the dashboard (using the Mounting bracket (6350-025) if necessary and insert plugs "A" and "B".	
Prior to obtaining the "K" factor it is recommended that the front prop-shaft be disconnected or the linear track method be used, (for permanent 4x4 vehicles).	
Mount the 2400 tachograph in a suitable position using the Mounting bracket (6350-025) if necessary.	
Program the K-factor as indicated by the Programmer, seal all connections, install calibration plaques and complete the required record sheets.	
Road test vehicle.	

Up-date information.

VEHICLE MAKE & MODEL	LANDROVER FREELANDER (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/018.0 (Jan 2001)



LandRover
Instrument
Cluster



B7

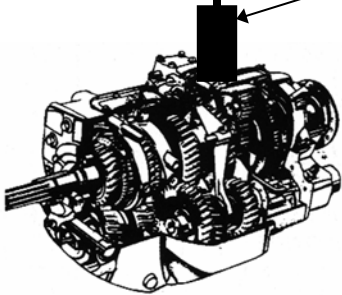


B3



7955-964

Sender



Tachograph: 2406 KTJ (12V, 180km/h, 1-day, 2-driver)

Sender: Existing

Interface: 7955-964 (Electronic Interface)

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard safety precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Description	CAV	Harness	Colour
Permanent power	2	C 192	R
Illumination supply	2	C 431	RO
Ignition supply	3	C 047	WB
Ground	1	C 550	B
Speed signal	6	C 047	WO

Using single wire adapter 7955-964, couple into the W/O signal wire at the gearbox sender using heat shrink around armoured cable and sender wire.

This wire should be terminated using Pin No.3 of plug 2714-266 then introduced into the Electronic Interface Adapter 7955-964. Return from tachograph output pin B7 to the Speedo.

Mount the tachograph in a suitable position in the dashboard (using the Mounting bracket (6350-025) if necessary and insert plugs "A" and "B").

Prior to obtaining the "K" factor it is recommended that the front prop-shaft be disconnected or the linear track method be used, (for permanent 4x4 vehicles).

Mount the 2400 tachograph in a suitable position using the Mounting bracket (6350-025) if necessary.

Program the K-factor as indicated by the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test vehicle.

VEHICLE MAKE & MODEL	LDV CONVOY (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Mechanical
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/019.0 (Jan 2001)



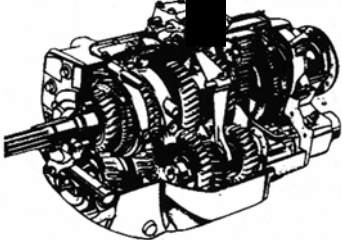
Into Pin B3



Speedometer



In-line
Sender
7955-884



Tachograph: 2416 KBA (12V, 125km/h, 1-day, 2-driver)
2416 KTA (12v, 180km/h, 1-day, 2-driver)
Sender: *7955-964

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard safety precautions prior to commencing installation.

To the right of the steering column are a number of connectors. The relevant wires can be identified as follows:

3-way connector: **yellow - purple/black** = Battery +ve
3-way connector: **(yellow) - black** = Battery -ve
5-way connector: **(orange) - white/purple** = Ignition
5-way connector: **white** = Illumination

The 2400 tachograph can be mounted in the storage shelf at the lower right of the steering column.

See following page for the choice of in-line senders available for the LDV Convoy.

Obtain the K-factor using the MKII Programmer and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as indicated by the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test vehicle.

Up-date information. 2002 model with electronic sensor, Speed signal from white plug at rear of dash, pin 7, Black/Yellow wire.
Ford gearbox & sender:- Speed signal, Blue/White wire.

VEHICLE MAKE & MODEL	MAZDA 2200/2500 (Sheet 1/1)
YEAR	2000
VOLTAGE	12V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/020.0 (Jan 2001)



Mazda
Instrument
Cluster



B7

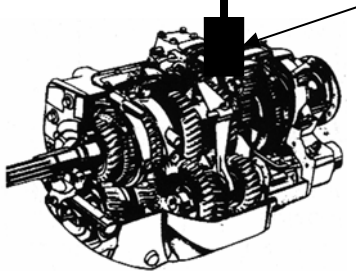


B3



7955-964

Sender



Tachograph:	2416KTA H01 (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray: (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360. Could use terminal block mounted under driver's seat.

2200.

Using single wire adapter 7955-964, couple into **Green/White** wire located at the rear of the instrument panel. The new wire should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.

Mount the tachograph in a suitable location for example a vacant radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

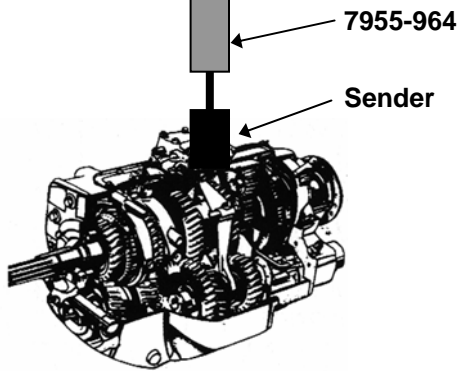
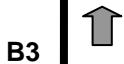
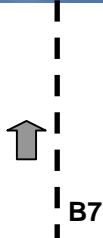
Road test the vehicle.

Up-Date Information. 2500 model 1999 onwards. Speed signal can be found on pin 5 of the white plug at the rear of the speedometer. (Blue wire with Silver bands.)

VEHICLE MAKE & MODEL	MITSUBISHI CANTER (Sheet 1/4)
YEAR	1999
VOLTAGE	12 / 24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/021.0 (Jan 2001)



Mitsubishi Instrument Cluster



Tachograph:	2416 KAA (24V, 125km/h, 1-day, 2-driver) 2416 KBA (12V, 125km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Sender may be normal spade drive or lug drive 7963-048 depending on the model.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Remove instrument panel cowl; expose speedometer signal wire (**White/Blue**, pin 5 from bottom of small black plug next to the speedometer). Couple into the White/Blue signal wire, using a permanent connection method, to supply signal source to the 2400 tachograph. This wire should be terminated using pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter 7955-964.

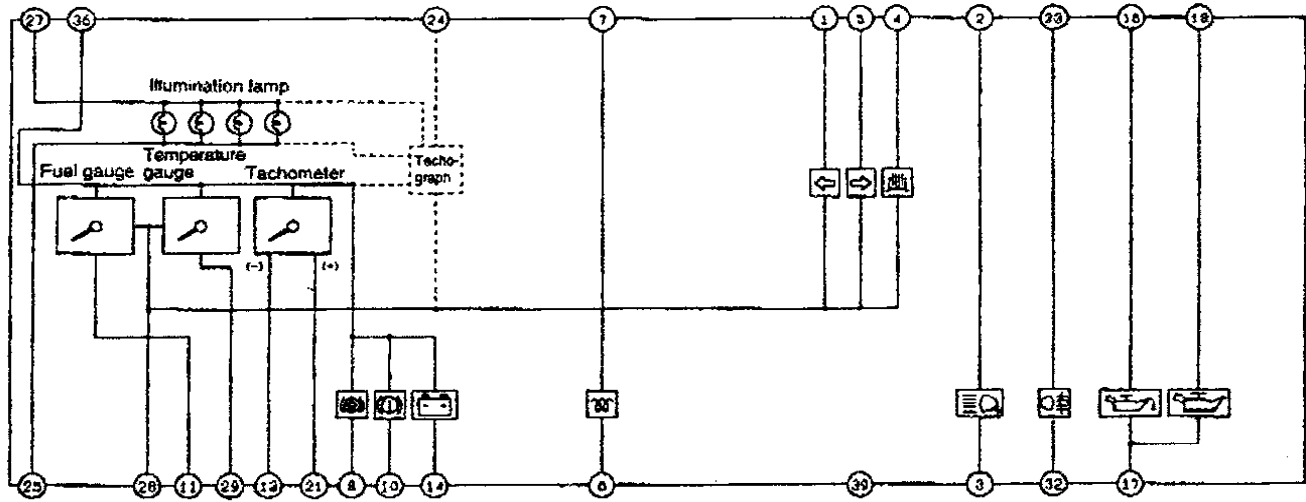
Mount the 2400 tachograph either into an extra radio slot or at some other suitable location using the Mounting tray (6350-025) and insert the "A" and "B" plugs.

Obtain the "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a god earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

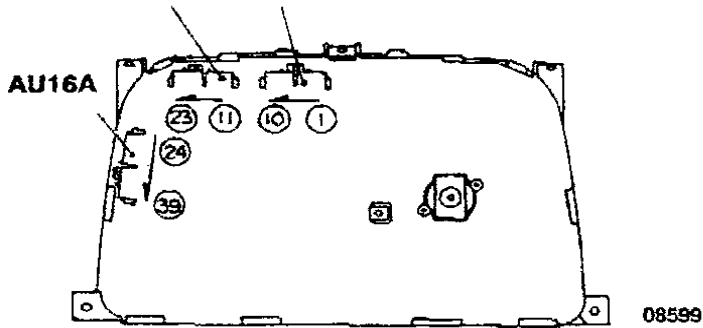
Road test the vehicle.

VEHICLE MAKE & MODEL	MITSUBISHI CANTER (Sheet 2/4)
YEAR	1999
VOLTAGE	12 / 24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/021.0 (Jan 2001)



AU13A AU10A

MITSUBISHI CANTER

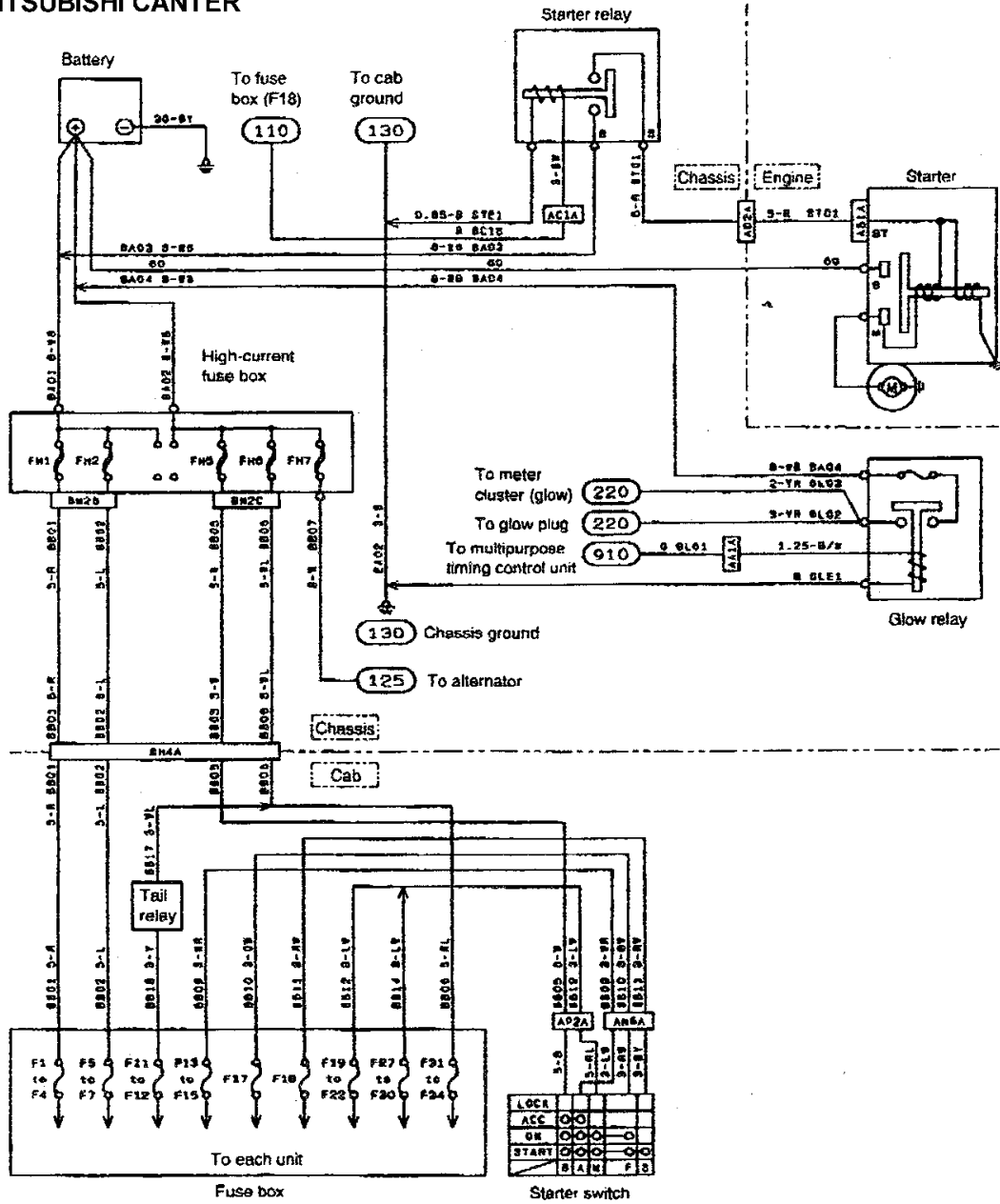


Terminal No.	AU16A	Terminal No.	AU13A	Terminal No.	AU10A
24	Battery χ	11	Fuel Gauge	1	Turn, LH
25	Illumination (-)	12	-	2	Beam (+)
26	-	13	Tachometer (-)	3	Beam (-)
27	Illumination (+)	14	Charge	4	Exhaust brake
28	Ground	15	-	5	Turn, RH
29	Water Temp.	16	Engine oil (+)	6	Glow (-)
30	-	17	Engine oil (-)/Engine oil level (-)	7	Glow (+)
31	-	18	Engine oil level (+)	8	Vacuum
32	Rear fog lamp (+)	19	-	9	-
33	Rear fog lamp (-)	20	-	10	Brake
34	-	21	Tachometer (+)	11	
35	-	22	-	12	
36	Terminal M of starter switch	23	-	13	

VEHICLE MAKE & MODEL	MITSUBISHI CANTER (Sheet 3/4)
YEAR	1999

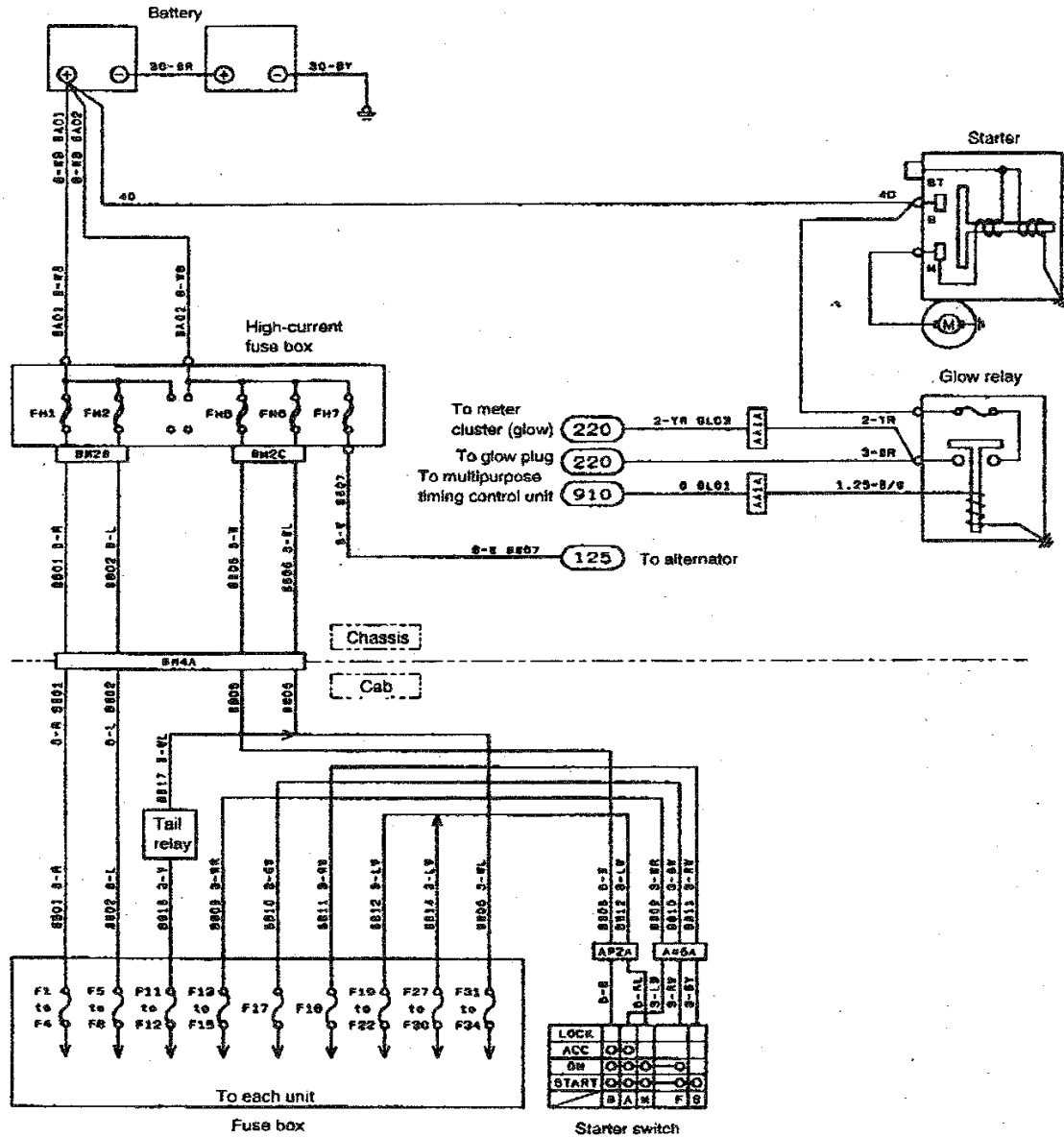
VOLTAGE	12 / 24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/021.0 (Jan 2001)

High-current Fuses FH1 to FH7 <FE5, FB> (12 Volt System)
MITSUBISHI CENTER

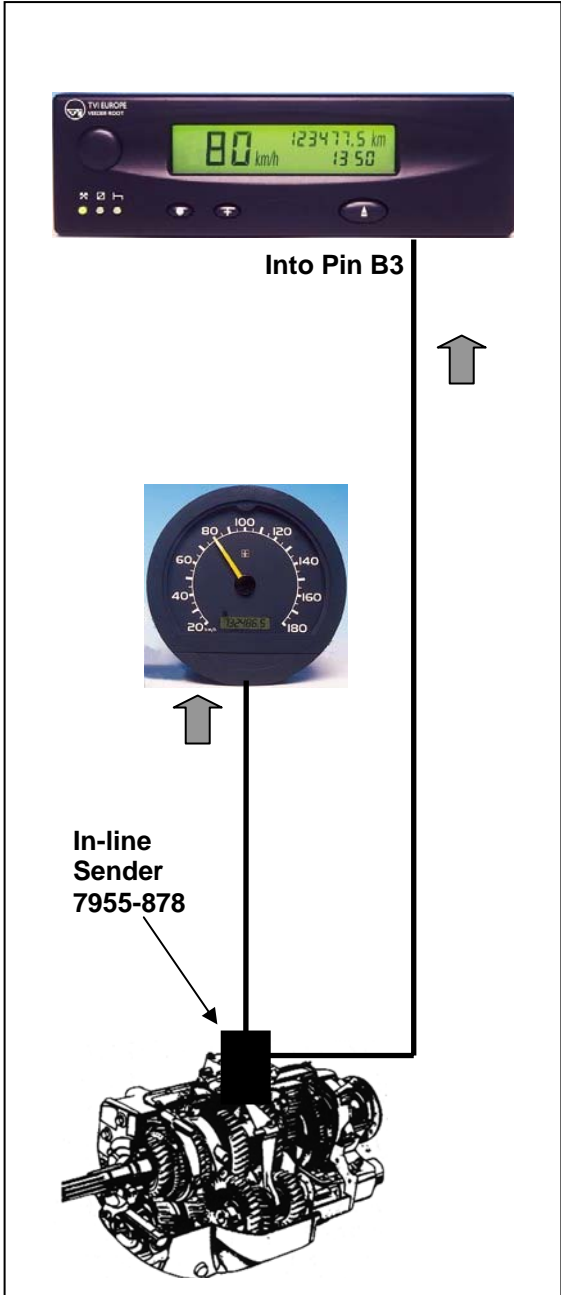


VEHICLE MAKE & MODEL	MITSUBISHI CANTER (Sheet 4/4)
YEAR	1999
VOLTAGE	12 / 24 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/021.0 (Jan 2001)

High-current Fuses FH1 to FH7 <FE6> (24 Volt System)
MITSUBISHI CANTER



VEHICLE MAKE & MODEL	MITSUBISHI 4-LIFE (L 200) (Sheet 1/1)
YEAR	2000
VOLTAGE	12V
SPEEDOMETER	Mechanical
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/022.0 (Jan 2001)



Tachograph:	2406 KTJ U01 (12V, 180km/h, 1-day, 2-driver)	
Sender:	7955-878	
Accessories:	Sealing Kit	(7450-300)
	Installation Kit	(7450-330)
	Mounting Tray:	(6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	MITSUBISHI SHOGUN 2.5 D (Sheet 1/1)
YEAR	2000
VOLTAGE	12V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/023.0 (Jan 2001)



Mitsubishi
Instrument
Cluster



B7

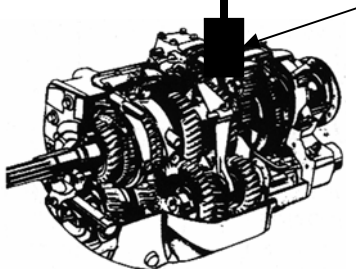


B3



7955-964

Sender



Tachograph:	2406KTJ H01 (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray: (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Using single wire adapter 7955-964, couple into double wire located within its **own connector block at the rear left side** of the instrument panel. The double wire consists of a Yellow/Grey and a Blue/Grey wire. Use the **Blue/Grey wire** as the speed signal wire.

This wire should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.

Mount the tachograph in a suitable location for example a vacant radio slot or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	MITSUBISHI SHOGUN 2.8 GLS (Sheet 1/1)
YEAR	2000
VOLTAGE	12V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/024.0 (Jan 2001)



**Mitsubishi
Instrument
Cluster**



B7

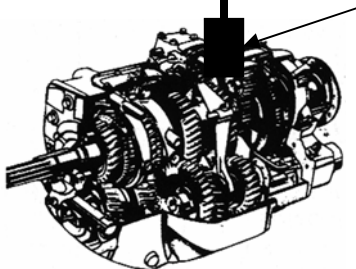


B3



7955-964

Sender



Tachograph:	2406KTJ U01 (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray: (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

There are three wires at the gearbox end. They are Black with a white stripe, black and blue with white dots. Locate speed signal wire at rear of Speedo Head. It is found in the top socket on the left hand side of the Speedo Head – it is the blue wire with the white dots. This wire should be terminated using Pin 3 of plug 2714-266 (yellow) then introduce into a single wire adapter box.

Mount the tachograph in a suitable location for example into the ashtray slot below the radio or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	NISSAN PATROL (Sheet 1/1)
YEAR	2000
VOLTAGE	12V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET (Retrofitment)	No. 2400/TA/024.0 (Jan 2001)



**Nissan
Instrument
Cluster**



B7

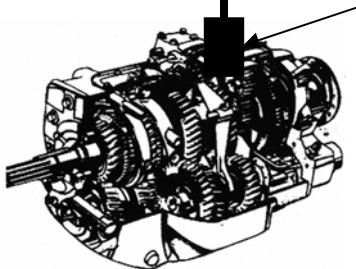


B3



7955-964

Sender



Tachograph:	2416KTA U01 (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray: (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Remove the instrument cluster to gain access to the rear of the Speedometer. There are two plugs at the back of the Speedometer and the one on the off-side has a GREY wire. Use this as the Speed Signal Wire.

Mount the tachograph in a suitable location for example into the ashtray slot below the radio or on top of the dashboard with Mounting tray (6350-025). And insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	PEUGEOT BOXER (Sheet 1/1)
YEAR	1998
VOLTAGE	12 V
SPEEDOMETER	Mechanical
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/025.0 (Jan 2001)

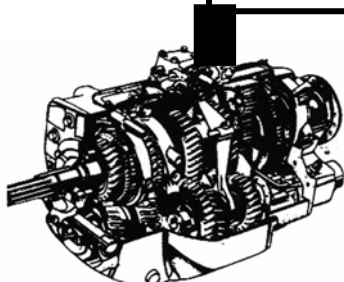


Into Pin B3

Existing
Speedometer



In-line
Sender
7955-880



Tachograph:	2406 KBJ (12V, 125km/h, 1-day, 2-driver)
Sender:	7955-880 (In-line sender)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard safety precautions prior to commencing installation.

In the engine compartment, remove grommet on near side bulkhead (above fuel filter), run cable to gearbox adapter (at the back of box) and to the 2400 tachograph located in a convenient position in the dashboard.
Fit the in-line sender (7955-880) between the gearbox and the Speedo cable.

Remove fuse box from base of glove box, wiring for power as follows:

From the left 4th along:-

Brown wire	to 7.5A fuse
Green wire	to 7.5A fuse (5 th along)
Red wire	to 7.5A fuse (3 rd from the right)
Blue/Black wire	to earth via bolt on near side bulkhead.

Remove **White wire** completely.

Obtain the "K"-factor using the MKII Programmer. Program the correct K-factor as indicated on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	RANGE ROVER (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/026.0 (Jan 2001)



Range Rover
Instrument
Cluster



B7

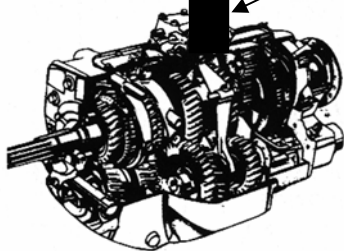


B3



7955-964

Sender



Tachograph:	2406 KBJ (12V, 125km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard safety precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

The Speed signal is taken from the **yellow** wire at Pin 9 on the 20-way connector block (C242) at the rear of the speedometer.

Mount the tachograph on top of the dashboard with Mounting tray (6350-025) and insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the K-factor as indicated by the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	RENAULT MASTER 2.8 Tdi (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/026.0 (Jan 2001)



Renault
Instrument
Cluster



B7

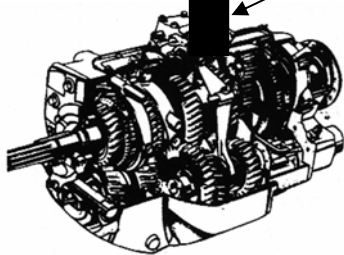


B3



7955-964

Sender



Tachograph: 2416 RVK (12V, 125km/h, 1-day, 2-driver)

Sender: Existing

Interface: 7955-964 (Electronic Interface)

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard safety precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

The relevant wire cluster is located at the rear of the radio. A suggested mounting position for the 2400 tachograph is on top of the dashboard, above the radio, at an angle.

Connect the Power harness (7450-360) to the radio connector as follows:

Red – Battery +ve
Black – Battery –ve
Light Blue – Illumination
Yellow – Ignition

The Speed signal is taken from the **Dark Green** wire at Pin 1 of the Grey terminal at the back of the dashboard.

Mount the tachograph on top of the dashboard with Mounting tray (6350-025) and insert "A" and "B" plugs.

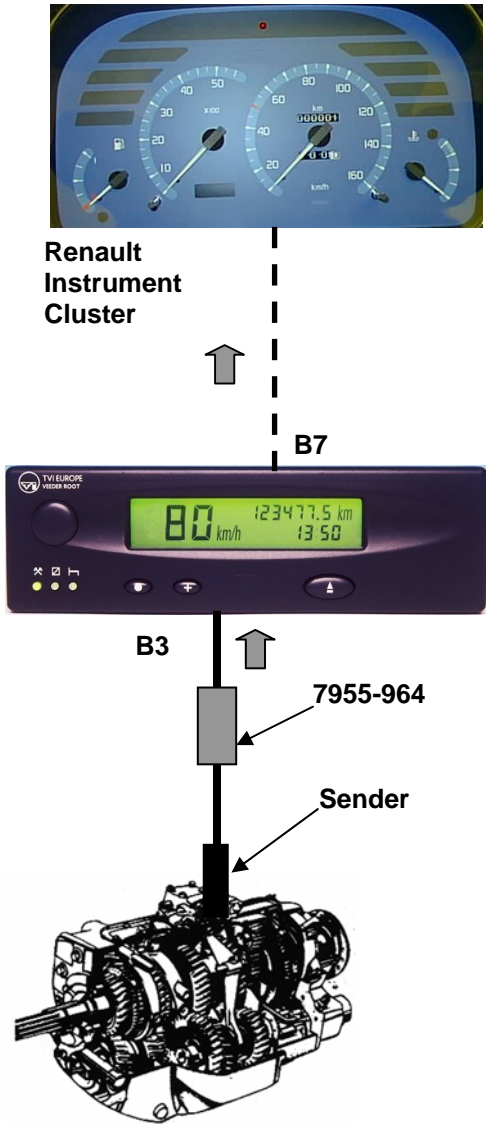
Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the K-factor as indicated by the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test vehicle.

Up-date Information. Speed pulse for the 2004/5 model. Green 15 way plug, Orange wire, pin 14.

VEHICLE MAKE & MODEL	RENAULT MASCOTT (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/027.0 (Jan 2001)



Tachograph: 2406 KTJ (12V, 180km/h, 1-day, 2-driver)

Sender: Existing

Interface: 7955-964 (Electronic Interface)

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

The relevant wire cluster is located at the rear of the radio. A suggested mounting position for the 2400 tachograph is on top of the dashboard, above the radio, at an angle.

Connect the Power harness (7450-360) to the radio connector as follows:

Red – Battery +ve
Black – Battery –ve
Light Blue – Illumination
Yellow – Ignition

The Speed signal is taken from the **Dark Green** wire at Pin 1 of the Grey terminal at the back of the dashboard.

Mount the tachograph on top of the dashboard with Mounting tray (6350-025) and insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	SANGYONG MUSSO (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/028.0 (Jan 2001)



Toyota Instrument Cluster



B7

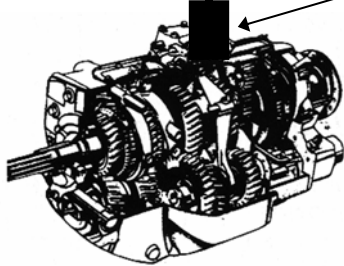


B3



7955-964

Sender



Tachograph:	2406 KTJ U01 (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

A speede signal may be taken from the thin Yellow wire near the gearstick.

Mount the tachogrsph in a suitable location such as an extra radio slot or on top of the dashboard with Mounting tray (6350-025). Insert 'A' and 'B' plugs.

Obtain the "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	TOYOTA HI LUX (Sheet 1/1)
YEAR	1993 (German manufactured)
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/029.0 (Jan 2001)



Toyota Instrument Cluster



B7

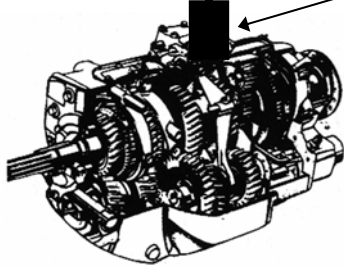


B3



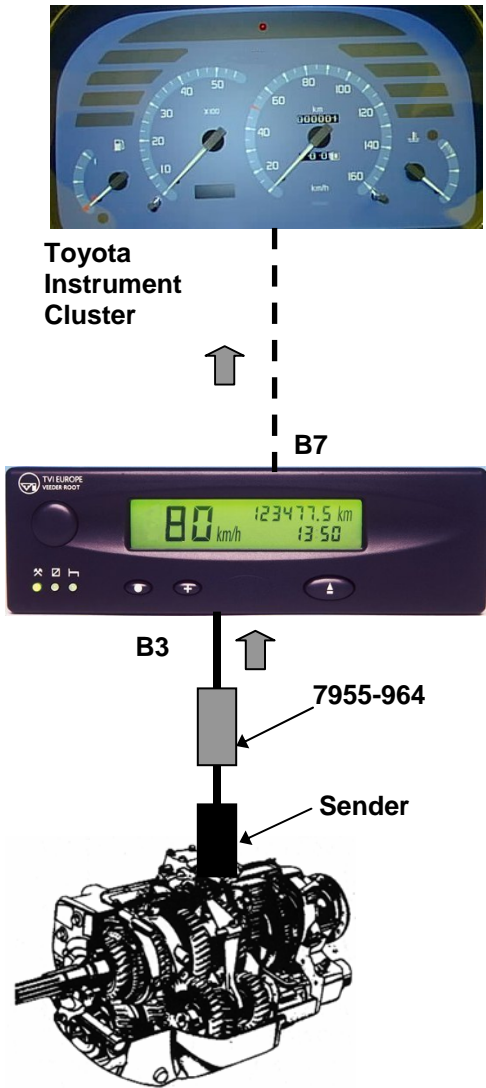
7955-964

Sender



Tachograph:	2406 KTJ (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)
<p>Fitting Instructions:</p> <p>Check all electrics are working. Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.</p> <p>The speed signal is taken from the GREEN wire located in the cluster at the rear of the speedometer.</p> <p>Couple into the GREEN wire using permanent connection method to supply speed signal source to the 2400 tachograph. This wire should be terminated using Pin 3 of plug 2714-266 (B3), then introduce into a single wire adapter, 7955-964.</p> <p>Mount the tachograph in a suitable location such as an extra radio slot or on top of the dashboard with Mounting tray (6350-025). Insert 'A' and 'B' plugs.</p> <p>Obtain the "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.</p> <p>Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.</p> <p>Road test the vehicle.</p>	

VEHICLE MAKE & MODEL	TOYOTA LANDCRUISER (AMAZON / COLORADO) (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/030.0 (Jan 2001)



Tachograph: 2406 KBJ (12V, 125km/h, 1-day, 2-driver)

Sender: Existing

Interface: 7955-964 (Electronic Interface)

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

The Speed signal is taken from the **Red/Green wire** at the gearbox end.

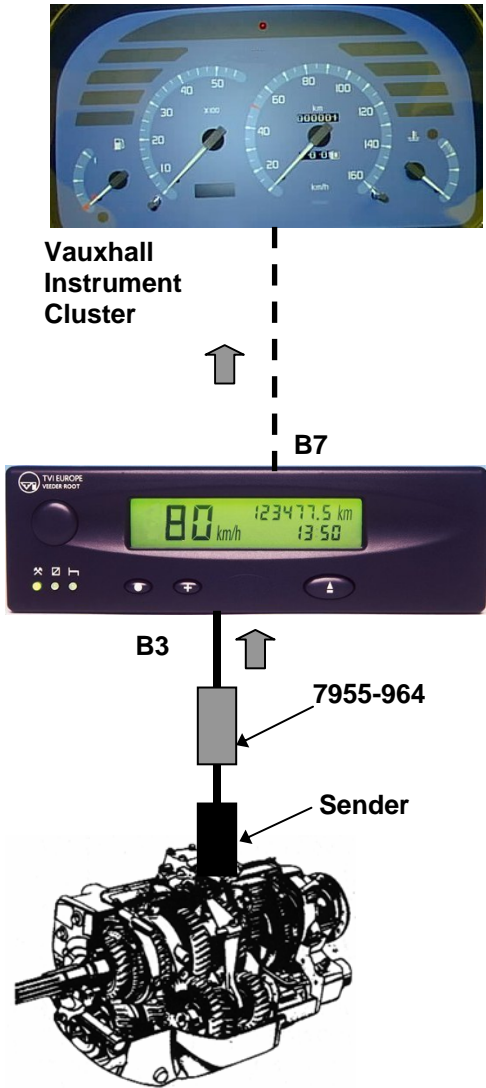
Mount the tachograph on top of the dashboard with Mounting tray (6350-025) and insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	VAUXHALL ASTRA (Sheet 1/1)
YEAR	2000
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/031.0 (Jan 2001)



Tachograph: 2406 KBJ H01 (12V, 125km/h, 1-day, 2-driver)

Sender: Existing

Interface: 7955-964 (Electronic Interface)

Accessories: Sealing Kit (7450-300)
Installation Kit (7450-330)
Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

The Speed signal is taken from the **Blue wire with Red trace** at the rear of the speedometer.

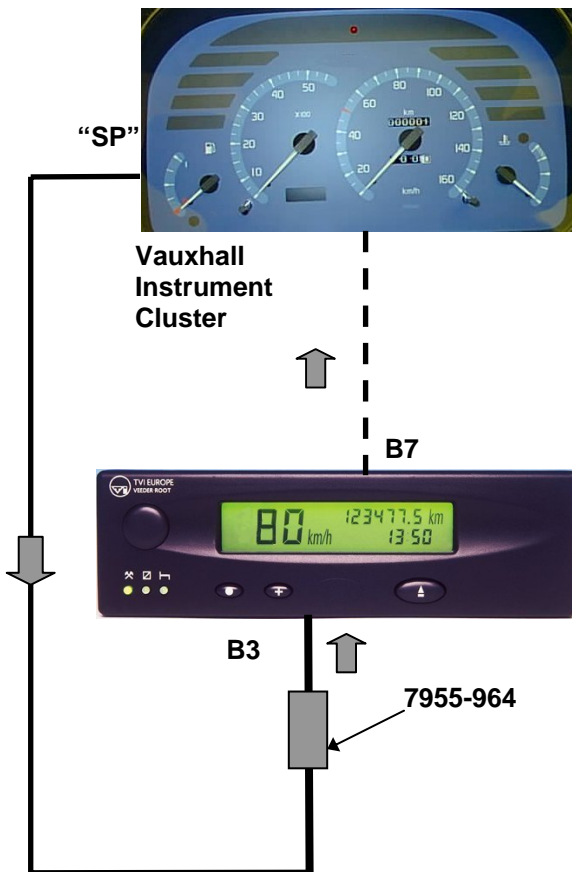
Mount the tachograph on top of the dashboard with Mounting tray (6350-025) and insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	VAUXHALL (GM) MOVANO (Sheet 1/1)
YEAR	1999
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/032.0 (Jan 2001)



Tachograph:	2406 KBJ (12V, 125km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300) Installation Kit (7450-330) Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

The relevant wire cluster is located at the rear of the radio. A suggested mounting position for the 2400 tachograph is on top of the dashboard, above the radio, at an angle.

Connect the Power harness (7450-360) to the radio connector as follows:

Red	- Battery +ve
Black	- Battery -ve
Light Blue	- Illumination
Yellow	- Ignition

The Speed signal is taken from the **position marked "SP"** at the rear of the instrument cluster.

Mount the tachograph on top of the dashboard with Mounting tray (6350-025) and insert "A" and "B" plugs.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.

VEHICLE MAKE & MODEL	VOLKSWAGEN LT-35 (Sheet 1/1)
YEAR	1998
VOLTAGE	12 V
SPEEDOMETER	Electronic
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/033.0 (Jan 2001)



Volkswagen
Instrument
Cluster



B7

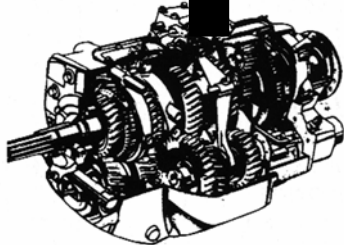


B3



7955-964

Sender



Tachograph:	2416 KBA (12V, 125km/h, 1-day, 2-driver)
	2416 KTA (12V, 180km/h, 1-day, 2-driver)
Sender:	Existing
Interface:	7955-964 (Electronic Interface)
Accessories:	Sealing Kit (7450-300)
	Installation Kit (7450-330)
	Mounting Tray (6350-025)

Fitting Instructions:

Check all electrics are working.
Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation.
Take standard precautions prior to commencing installation.

Source permanent, ignition and lighting feeds, as normal, for use with power harness 7450-360.

Remove the dash panel by removing the 4 retaining screws – 2 at the glove box, 1 under the RH speaker and 1 under dummy radio panel.

Connect the power harness to the radio connector (if the radio is disconnected, the radio code must be noted) as follows:

Red/Yellow	– Battery +ve
Brown	– Battery –ve
Red/Black	– Ignition
Grey/Green	– Illumination

The speed signal is taken from the **White** wire (Pin 27) in the Black plug on the Speedo, to the interface 7955-964.

The 2400 tachograph can be mounted under the glove box using the Mounting tray (6350-025) and the standard installation kit (7450-330).

Obtain the “K”-factor using the MKII Programmer (7955-975) and the “G” lead 7780-984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.

Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.
Road test the vehicle.

Up-date information. 2005 VW T5 van, speed signal is at the radio connection.

2004/5 LT vans. Stoneridge tacho is not compatible with the VW canbus system therefore the tacho & the cluster must operate independently.

VEHICLE APPLICATION LIST IN-LINE SENDERS

VEHICLE TYPE	MODEL	SENDER	FITTING TYPE	TVI Part No.
CHRYSLER	Cherokee 98+	Electronic	Interface	7955-964
CITROEN	Jumper	68H	Gearbox	7955-880
	Relay 1.9D	68H	Gearbox	7955-880
	Relay 2.5	80H8	Gearbox	7955-895
DAIHATSU	Fourtrak	62H	Speedo head	7955-878
DAF	200/400	68H	Gearbox	7955-880
	400	72H4C/8	Speedo head	7955-884
	3.5 ton truck	72H4	Speedo head	7955-883
	300	67HC	Speedo head	7955-886
	Convoy	72H4C/8	Speedo head	7955-884
FIAT	Uno van	66H	Gearbox	7955-885
	Ducato '94-	72H3	Gearbox	7955-827
	Ducato '94+	80H8	Gearbox	7955-895
FORD	Cargo	68H	Gearbox	7955-881
	Courier	65H	Gearbox	7955-888
	Modivan	Electronic	Interface	7955-964
	Transit '94-	67H	Speedo head	7955-825
	Transit '94+	67HC	Speedo head	7955-886
	Tranist '98+	Electronic	Interface	7955-964
	Transit 2000	Electronic	Interface	7955-964
	Mondeo 95+	65HC	Gearbox	7955-888
	Ranger	Electronic	Interface	7955-964
HONDA	Shuttle	Electronic	Interface	7955-964
HYUNDAI	H100	61H	Gearbox	7955-878
	H200	Electronic	Interface	7955-964
ISUZU	Trooper	61H	Gearbox	7955-878
	Trooper 98+	Electronic	Interface	7955-964
IVECO	Daily '89-	68H	Gearbox	7955-826
	Daily '89+	Electronic	Interface	7955-964
	Daily 98+	Electronic	Interface	7955-964
KIA	All types	61H	Gearbox	7955-878

LANDROVER	90	72H4C/8	Speedo head	7955-884
	Defender 110	Electronic	Interface	7955-964
	Discovery	Electronic	Interface	7955-964
	Freelander	Electronic	Interface	7955-964
	Series 2	71H	Split cable	
LDV	Convoy	72H4C/8	Speedo Head	7955-884
LEYLAND	Boxer	72H3C/8	Speedo head	7955-882
	Sherpa	72H3C/8	Speedo head	7955-882
	Sherpa 400 (3mm)	67H	Speedo head	7955-879
	Sherpa 400 (4mm)	72H4	Speedo head	7955-883
MAZDA	E-2000 truck	61H	Gearbox	7955-878
	E-2200 truck	61H	Gearbox	7955-878
	Pickup	61H	Gearbox	7955-878
	2200	Electronic	Interface	7955-964
MERCEDES	Sprinter	Electronic	Interface	7955-937
	Sprinter CDi	Electronic	Interface	7955-937
	Vito	Electronic	Interface	7955-937
MITSUBISHI	Canter F1 35T	61H or 68H	Gearbox	7955-878/880
	Canter 98+	Electronic	Interface	7955-964
	L200, L300	61H	Gearbox	7955-878
	Shogun	61H	Gearbox	7955-878
NISSAN	Kingcab	61H	Gearbox	7955-878
	Terrano II	61H	Gearbox	7955-878
	Urv., Vanette '95-	61H	Gearbox	7955-824
	Urv., Vanette '95+	Electronic	Interface	7955-964
PEUGEOT	Boxer	68H	Gearbox	7955-880
	1.9D	80H	Gearbox	7955-891
	Partner	Electronic	Interface	7955-964
RANGE ROVER	Range Rover	71H	Speedo head	
RENAULT	B-90 35D truck	72H4	Speedo head	7955-883
	Mascot	Electronic	Interface	7955-964
	Master	68H	Gearbox	7955-880
	Master 2.8 TDi	Electronic	Interface	7955-964
TOYOTA	Landcruiser	61H	Gearbox	7955-878
	Landcruiser	Electronic	Interface	7955-964
	Hi-Ace, Lite-Ace	61H	Gearbox	7955-878
	Hi-Lux (Japanese)	61H	Gearbox	7955-878

	Hi-Lux (German)	Electronic	Interface	7955-964
VAUXHALL/OPEL	Combo van	65HC	Gearbox	
	Frontera	61H	Gearbox	7955-878
	Montery	Electronic	Interface	7955-964
	Movano	Electronic	Interface	7955-964
	Astra	Electronic	Interface	7955-964
VOLKSWAGEN	LT-35 van	65H	Gearbox	7955-888
	LT-35 van 98+	Electronic	Interface	7955-964
	Transporter '96-	65H	Split cable	7955-900
	Transporter '96+	Electronic	Interface	7955-964

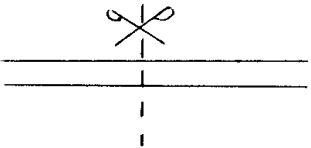
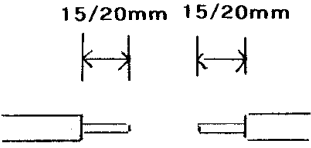
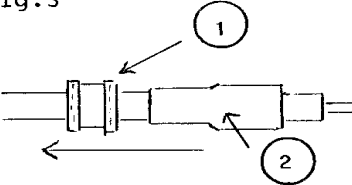
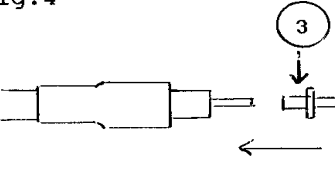
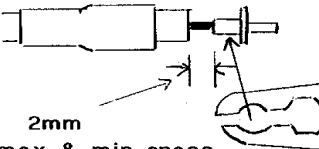
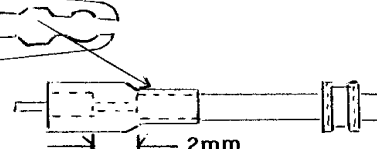
APPENDIX C

THE UNIVERSAL SENDER

The unit is designed to operate in line with commonly used automotive speedo cables.

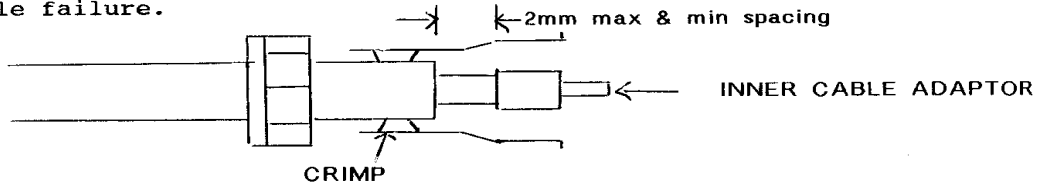
The Hunter universal transducer offers equipment manufacturers and retrofit workshops a highly reliable rotary transducer with excellent mark space ratio and at a competitive price.

INSTALLATION

<p>Fig.1</p> 	<p>Fig.2</p> <p>15/20mm 15/20mm</p> 	<p>Fig.3</p> 
<p>Select suitable position on speedo cable in engine bay. Cut through both inner and outer cables using a fine tooth hacksaw (32 teeth/inch is recommended).</p>	<p>Cut back outer cable 15mm from the cut ends, leaving inner cable showing. Ensure that inner cable is not withdrawn from its location at speedo head and gear—otherwise it could be cut too short.</p>	<p>Slide nut (1) and sleeve (2) over the outer cable away from the cut ends.</p>
<p>Fig.4</p> 	<p>Fig.5</p>  <p>2mm max & min space</p>	<p>Fig.6</p>  <p>2mm</p>
<p>Slide the drive pin (3) over the inner cable.</p>	<p>Crimp unit on to inner speedo cable using the small crimping head on the crimping pliers.</p>	<p>Slide sleeve (2) forward until it sits 2mm away from the outer cable. Crimp on to outer cable using large slot on pliers.</p>

It is essential when crimping the ferrule to the outer cable that there is a space between the rear face of the brass drive pin and the cut end of the outer cable. The cross section below shows the correct fitting when the nut is tightened on the transducer.

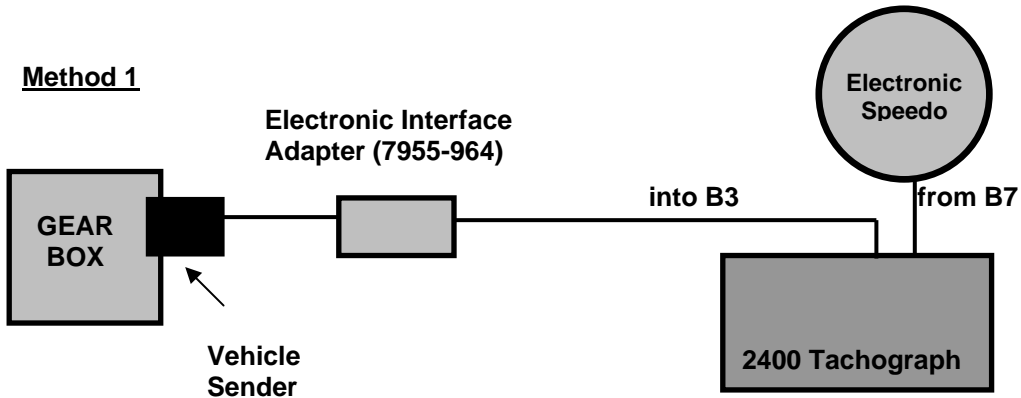
Note: Any rubbing of the rear face of the adaptor and the cut end of the outer cable will cause speedo flickering and eventually inner cable failure.



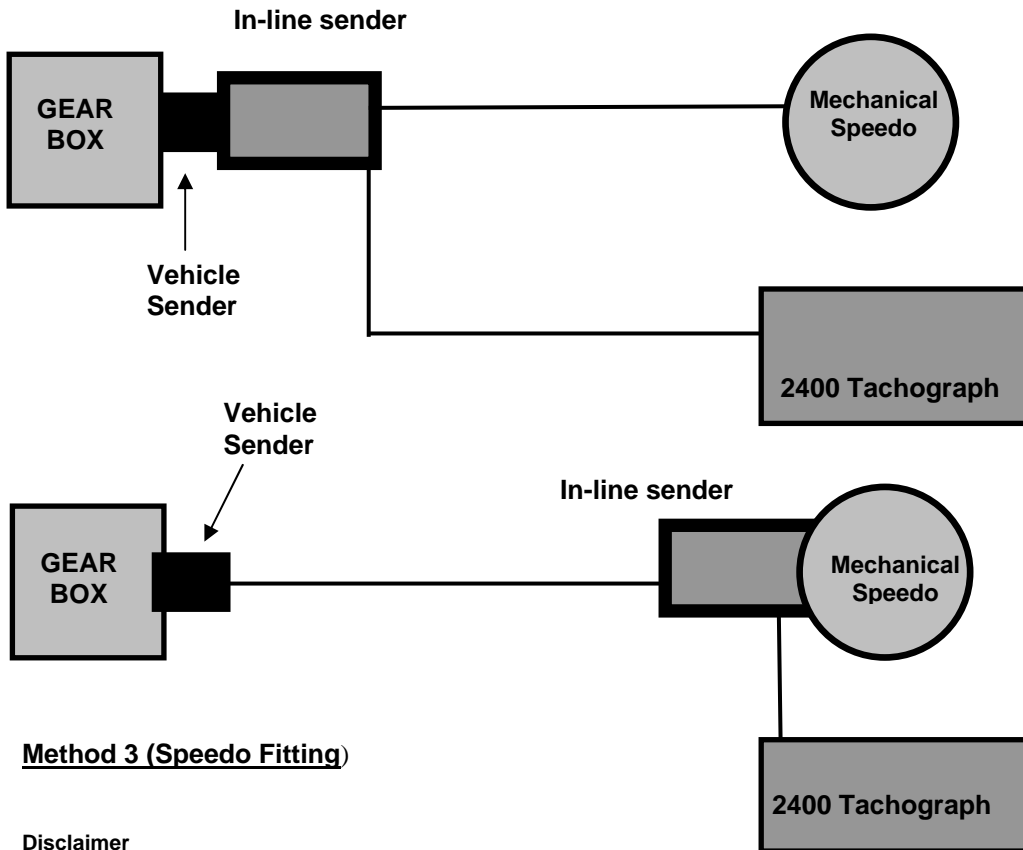
APPENDIX D

Recommended fitting positions for the in-line Senders and the TVI Electronic Interface.

Method 1



Method 2 (Gearbox Fitting)



Method 3 (Speedo Fitting)

Disclaimer

The information given on this datasheet is to be regarded as approximate. It is intended as a guide for use by persons having relevant tachograph installation skill, at their own discretion and risk. Changes may have been made to the design and equipment since this data sheet went to print. The illustrations may show items or optional equipment which do not form part of the standard specification.

APPENDIX E

FAX BACK TO: 01382 832382

Your feedback will be welcomed. Please inform us of any application you have done that is NOT mentioned in this guide.

VEHICLE MAKE & MODEL	
YEAR	
VOLTAGE	
SPEEDOMETER	
TACHOGRAPH APPLICATION SHEET	No. 2400/TA/022.0



Instrument Cluster



B7

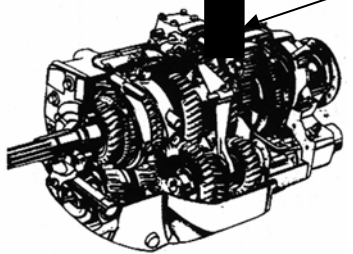


B3



7955-964

Sender



Tachograph:

Sender:

Interface:

Accessories: Sealing Kit (7450-300)
 Installation Kit (7450-330)
 Mounting Tray: (6350-025)

Fitting Instructions:

Check all electrics are working.
 Bench test the 2400 tachograph in line with initial calibration procedures to prepare it for installation. Take standard precautions prior to commencing installation.

Obtain "K"-factor using the MKII Programmer (7955-975) and the "G" lead 7780-9984 via the 6-pin socket at the front of the 2400 tachograph. Ensure a good earth to the Programmer.
 Program the correct K-factor as shown on the Programmer, seal all connections, install calibration plaques and complete the required record sheets.

Road test the vehicle.