



Supplement to Yanmar Kit Installation Instructions

## SAFETY

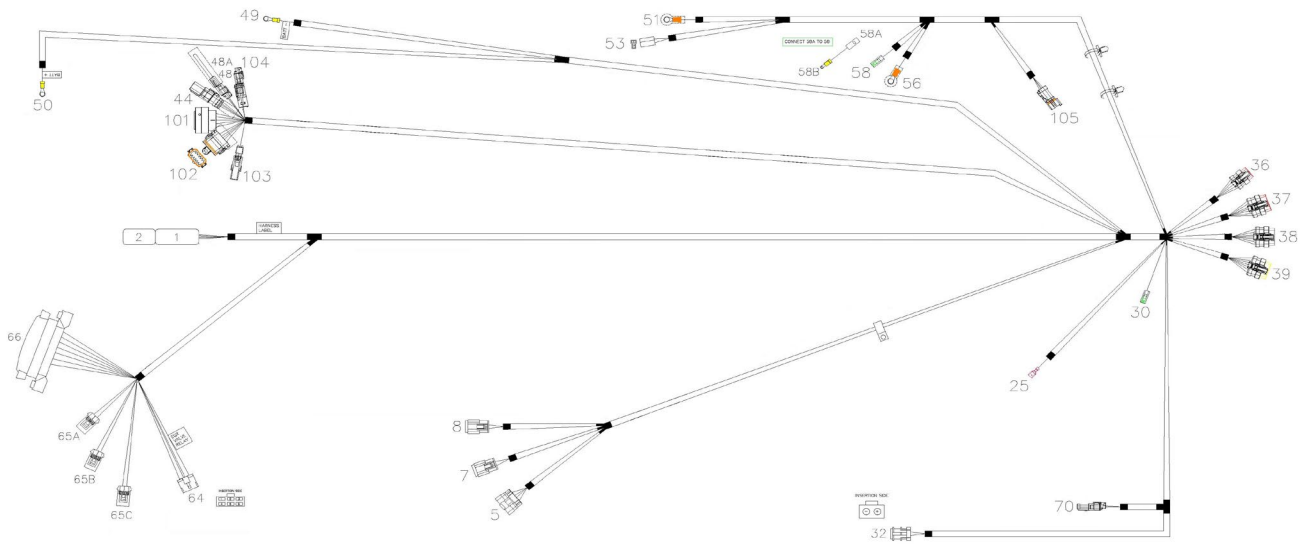
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This product is designed and intended only for use with a YANMAR engine. All safety and warning information contained in the Yanmar Operation Manual and Service Manual is adopted and incorporated to apply to the components, accessories, and parts that are utilized with Yanmar engines. Follow all instructions and precautions before installing this product, before operating, during operation, and during periodic maintenance procedures for your safety, the safety of others, and to protect the performance of your engine.



Item	Part No.	Description	Quantity	Remarks
1	129C88-91121	Main Harness Assembly	1	
2	198461-52950*	Relay for EGR valve	1	Included w/ engine
3	-	80A, 12V Relay	2	Included w/ harness
4	-	Starter Sub Harness	1	Included w/ harness

**MODELS**  
 4TNV88C  
 4TNV98C  
 4TNV98CT



**NOTE:** Starter Sub Harness may not be necessary; Starter type will determine  
 Service parts are denoted by an asterisk. To replace non-service parts, the entire kit will need to be purchased.

**KPH9 - Harness KIT**  
**INS-KPH9-0013**



## Installation Instructions

NOTE: Only the Starter and Glow Plug Relays are included with the harness kit. The EGR valve relay is supplied with the distributor standard specification engine in the loose parts box. The optional connections for distributor use are located in the Accessory Coupler. The optional features include Pre-Heat Lamp, Engine Stop 1 & 2, Charge Lamp, etc.

Please see the next page for detailed installation instructions.

WARNING: Be sure battery cables are connected correctly. Disconnecting either the positive or negative battery cable while the equipment is operating will cause premature failure of electronic components. Also, never weld on equipment with the ECU connected to the wire harness.

NOTE: In the event that the wire harness needs to be extended, never use scotch locks or butt connectors to extend the wire harness. All extended wires must be soldered and sealed.

### Remote Mounted ECU Applications:

For applications that remotely mount the ECU within the wire harnesses reach please use the following ECU mounting guidelines:

- 1- Install the ECU in a location that is not subject to steam or high-pressure water for cleaning
- 2- Install the ECU in a location that is well ventilated and not subject to direct sunlight.
- 3- Install the ECU so that the connector faces downward. Failure to do so may trap water in the connector, resulting in corrosion of connector pins.
- 4- Ensure no water is trapped inside the connector when plugging the connector. Water inside the connector may corrode connector pins, resulting in malfunctioning of the ECU.

Refer to harness drawing for additional design requirements for consideration of application. A troubleshooting guide is available through Yanmar's Distributor Website or by contacting Yanmar America's Service Department.

Table 1: Comply with torque standards in the table to avoid unexpected damage during installation or in the future.

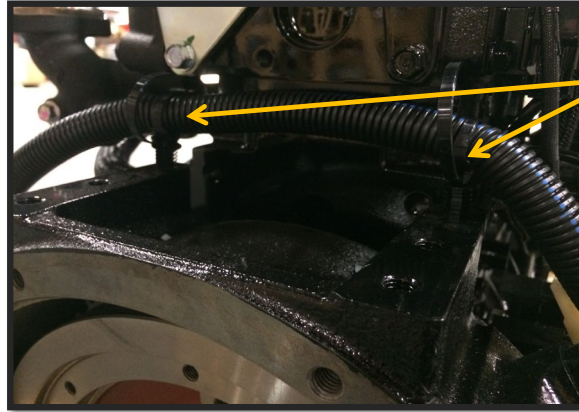
Diameter x Pitch	Kgf-m	Foot-lbf	N-m
M5x0.8	0.4 ~ 0.7	3 ~ 5	4 ~ 6.7
M6 x 1.0	1.0~1.2	7 ~ 9	9.8 ~ 11.8
M8 x 1.25	1.5 ~ 2.9	10.6 ~ 20.9	14.4 ~ 28.3
M12 x 1.75	8.0 ~ 10.0	57.8 ~ 72.3	78.4 ~ 98.0

Note: There are no bolts included with harness kit

**KPH9 - Harness KIT**  
**INS-KPH9-0013**

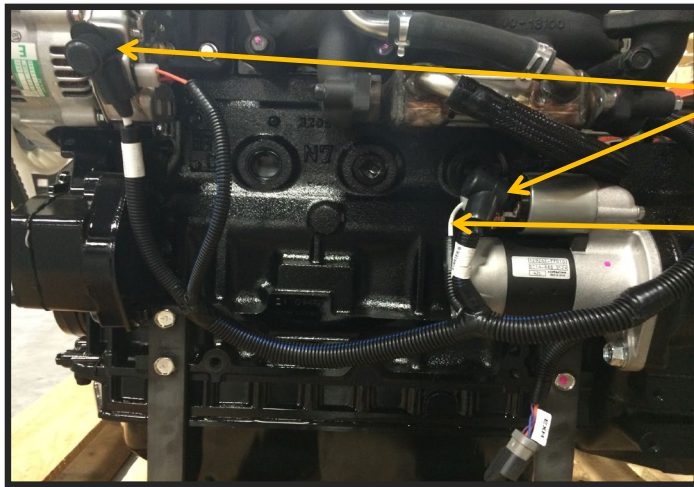
## Harness Routing Instructions

1. Lay the loose harness on engine to gauge fitment and placement of where the relays, ECU, and connectors should go based on the wiring diagrams provided. Please refer to TNV application manual for cautionary measures to be taken when mounting a harness to an engine.
2. Secure section of loom containing (2) P-clips to the flywheel housing with loosely attached P-clips. There will be a series of M10 bolt holes on the top of the flywheel housing.



P-clips hold down the alternator and starter section of loom to the flywheel housing. Make sure P-clips and loom have the proper orientation to allow the loom to rest close to the flywheel barrel.

3. Connect alternator plugs (51) & (53) and starter connectors (56) & (58). Cover terminals after connecting.



Replace terminal covers after connecting

Starter Sub Harness may need to be removed to properly attach connector (58)

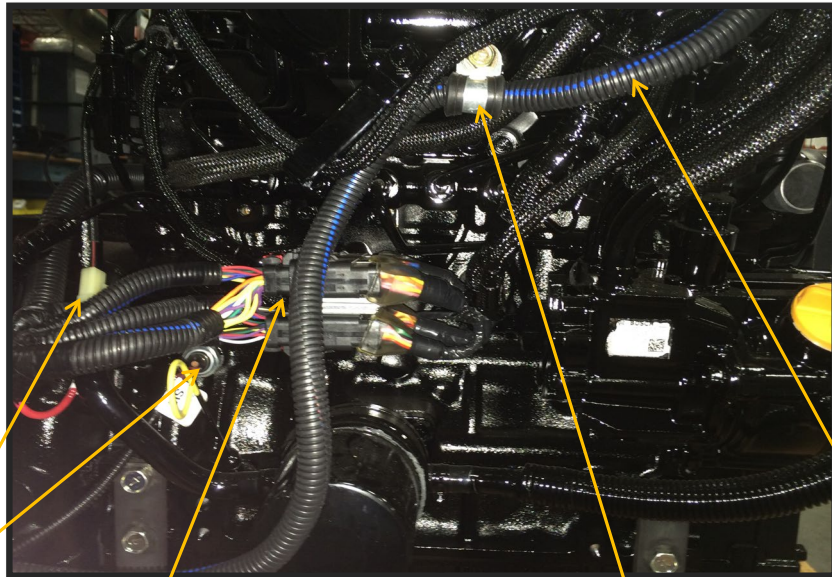
4. Layout harness as shown. Connectors 1, 2, 64, 65 - 66, 44, 48, 101 - 104, and the battery leads (49 & 50)





### Harness Routing Instructions

5. The intermediate couplers (36-39) should be connected next. The mounting points for the turbo engines may differ from the naturally aspirated engines. Please see the pictures below for reference on exact positioning (4TNV88C shown below). Connect glow plug (30) and oil pressure switch (25). Route the DPF loom section similar to placement shown. Use loose clamp noted to attach harness. Always avoid harness contact with high temp surfaces such as the DPF, EGR, etc.



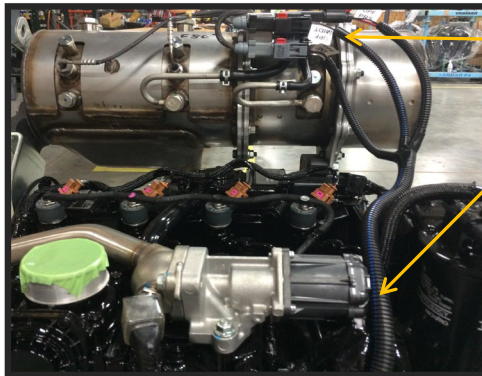
Oil Pressure Switch and Glow Plug

Intermediate couplers (36 - 39)

Loose clamp for fixing DPF harness section

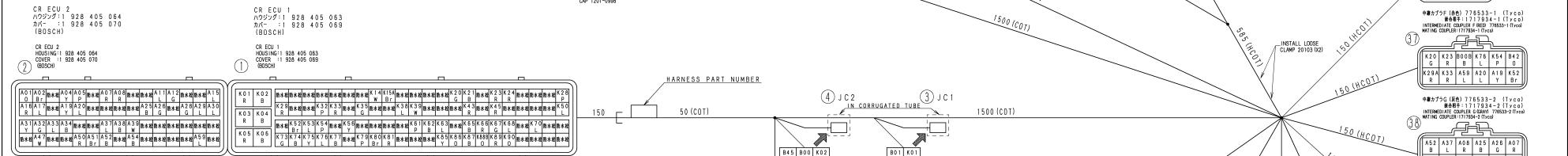
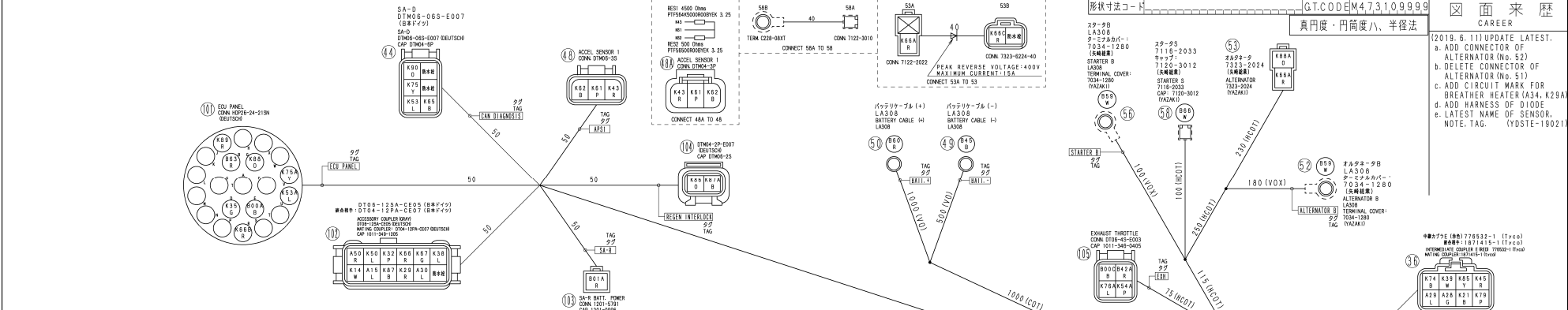
DPF harness section continued below

6. Route the DPF branch between the EGR valve and the fuel filter up to the DPF connections. Check and adjust if necessary to ensure that no contact will be made in operation between harness and high temp surfaces (DPF, etc)

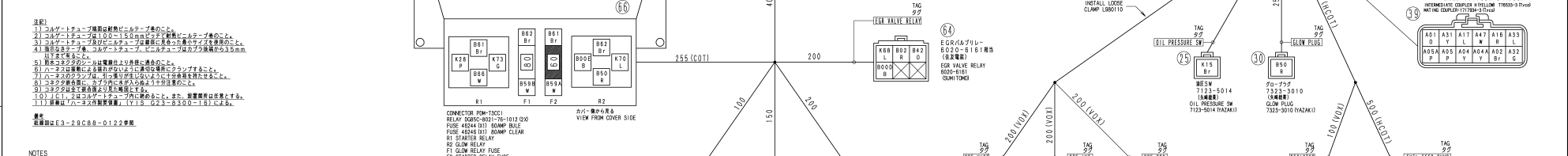


The routing shown is for exhaust manifold mounted DPF's. Flywheel mounted DPF's will need harness section routed similarly. This section is secured by clamp shown above.

Refer to harness drawing for additional design requirements for consideration of application.



ハーネスの取出し方向の例を示す。  
 THE DIRECTION OF TAKING OUT THE HARNESS IS SHOWN IN FIGURE.



NOTES  
 1) RESISTANT VINYL TAPE TO BE COILED AROUND CORRUGATED TUBE END.  
 2) HEAT RESISTANT VINYL TAPE TO BE COILED EVERY 100 TO 150mm.  
 3) MINIMUM SIZE OF CORRUGATED TUBE AND VINYL TAPE TO BE SELECTED WHICH FITS WIRE DIA.  
 4) UNLESS OTHERWISE SPECIFIED, WRAPPING TAPE, CORRUGATED TUBE AND VINYL TAPE HAVE TO REACH UP TO 50mm OR LESS FROM COUPLER.  
 5) SEAL OF WATERPROOF COUPLER HAS TO FIT DIA. OF FINISHED WIRE.  
 6) HARNESS TO BE CLAMPED PROPERLY TO AVOID VIBRATION.  
 7) HARNESS TO BE CLAMPED WITHOUT STRETCH.  
 8) WHEN FITTING COUPLERS, BE CAREFUL NOT TO LET WATER INTO THEM.  
 9) COUPLER FIGURES ARE ROUGH SKETCHES VIEWED FROM FITTING SIDE.  
 10) STORE J.C1 AND J.C2 IN CORRUGATED TUBE BRANCH POSITION IS FREE.  
 11) REFER TO 'YIS G23-8300-16' FOR DETAILS OF WIRE HARNESS MAKING.

REMARKS  
 WIRING DIAGRAM IS E3-29288-0122

No.	品名	規格	数量	単位	備考	No.	品名	規格	数量	単位	備考
001	AVSS	0.5	1	B	AS4	001	AVSS	0.5	1	B	AS4
002	AVSS	0.5	1	B	AS4	002	AVSS	0.5	1	B	AS4
003	AVSS	0.5	1	B	AS4	003	AVSS	0.5	1	B	AS4
004	AVSS	0.5	1	B	AS4	004	AVSS	0.5	1	B	AS4
005	AVSS	0.5	1	B	AS4	005	AVSS	0.5	1	B	AS4
006	AVSS	0.5	1	B	AS4	006	AVSS	0.5	1	B	AS4
007	AVSS	0.5	1	B	AS4	007	AVSS	0.5	1	B	AS4
008	AVSS	0.5	1	B	AS4	008	AVSS	0.5	1	B	AS4
009	AVSS	0.5	1	B	AS4	009	AVSS	0.5	1	B	AS4
010	AVSS	0.5	1	B	AS4	010	AVSS	0.5	1	B	AS4
011	AVSS	0.5	1	B	AS4	011	AVSS	0.5	1	B	AS4
012	AVSS	0.5	1	B	AS4	012	AVSS	0.5	1	B	AS4
013	AVSS	0.5	1	B	AS4	013	AVSS	0.5	1	B	AS4
014	AVSS	0.5	1	B	AS4	014	AVSS	0.5	1	B	AS4
015	AVSS	0.5	1	B	AS4	015	AVSS	0.5	1	B	AS4
016	AVSS	0.5	1	B	AS4	016	AVSS	0.5	1	B	AS4
017	AVSS	0.5	1	B	AS4	017	AVSS	0.5	1	B	AS4
018	AVSS	0.5	1	B	AS4	018	AVSS	0.5	1	B	AS4
019	AVSS	0.5	1	B	AS4	019	AVSS	0.5	1	B	AS4
020	AVSS	0.5	1	B	AS4	020	AVSS	0.5	1	B	AS4
021	AVSS	0.5	1	B	AS4	021	AVSS	0.5	1	B	AS4
022	AVSS	0.5	1	B	AS4	022	AVSS	0.5	1	B	AS4
023	AVSS	0.5	1	B	AS4	023	AVSS	0.5	1	B	AS4
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025	AVSS	0.5	1	B	AS4	025	AVSS	0.5	1	B	AS4
026	AVSS	0.5	1	B	AS4	026	AVSS	0.5	1	B	AS4
027	AVSS	0.5	1	B	AS4	027	AVSS	0.5	1	B	AS4
028	AVSS	0.5	1	B	AS4	028	AVSS	0.5	1	B	AS4
029	AVSS	0.5	1	B	AS4	029	AVSS	0.5	1	B	AS4
030	AVSS	0.5	1	B	AS4	030	AVSS	0.5	1	B	AS4
031	AVSS	0.5	1	B	AS4	031	AVSS	0.5	1	B	AS4
032	AVSS	0.5	1	B	AS4	032	AVSS	0.5	1	B	AS4
033	AVSS	0.5	1	B	AS4	033	AVSS	0.5	1	B	AS4
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035	AVSS	0.5	1	B	AS4	035	AVSS	0.5	1	B	AS4
036	AVSS	0.5	1	B	AS4	036	AVSS	0.5	1	B	AS4
037	AVSS	0.5	1	B	AS4	037	AVSS	0.5	1	B	AS4
038	AVSS	0.5	1	B	AS4	038	AVSS	0.5	1	B	AS4
039	AVSS	0.5	1	B	AS4	039	AVSS	0.5	1	B	AS4
040	AVSS	0.5	1	B	AS4	040	AVSS	0.5	1	B	AS4
041	AVSS	0.5	1	B	AS4	041	AVSS	0.5	1	B	AS4
042	AVSS	0.5	1	B	AS4	042	AVSS	0.5	1	B	AS4
043	AVSS	0.5	1	B	AS4	043	AVSS	0.5	1	B	AS4
044	AVSS	0.5	1	B	AS4	044	AVSS	0.5	1	B	AS4
045	AVSS	0.5	1	B	AS4	045	AVSS	0.5	1	B	AS4
046	AVSS	0.5	1	B	AS4	046	AVSS	0.5	1	B	AS4
047	AVSS	0.5	1	B	AS4	047	AVSS	0.5	1	B	AS4
048	AVSS	0.5	1	B	AS4	048	AVSS	0.5	1	B	AS4
049	AVSS	0.5	1	B	AS4	049	AVSS	0.5	1	B	AS4
050	AVSS	0.5	1	B	AS4	050	AVSS	0.5	1	B	AS4
051	AVSS	0.5	1	B	AS4	051	AVSS	0.5	1	B	AS4
052	AVSS	0.5	1	B	AS4	052	AVSS	0.5	1	B	AS4
053	AVSS	0.5	1	B	AS4	053	AVSS	0.5	1	B	AS4
054	AVSS	0.5	1	B	AS4	054	AVSS	0.5	1	B	AS4
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061	AVSS	0.5	1	B	AS4	061	AVSS	0.5	1	B	AS4
062	AVSS	0.5	1	B	AS4	062	AVSS	0.5	1	B	AS4
063	AVSS	0.5	1	B	AS4	063	AVSS	0.5	1	B	AS4
064	AVSS	0.5	1	B	AS4	064	AVSS	0.5	1	B	AS4
065	AVSS	0.5	1	B	AS4	065	AVSS	0.5	1	B	AS4
066	AVSS	0.5	1	B	AS4	066	AVSS	0.5	1	B	AS4
067	AVSS	0.5	1	B	AS4	067	AVSS	0.5	1	B	AS4
068	AVSS	0.5	1	B	AS4	068	AVSS	0.5	1	B	AS4
069	AVSS	0.5	1	B	AS4	069	AVSS	0.5	1	B	AS4
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074	AVSS	0.5	1	B	AS4	074	AVSS	0.5	1	B	AS4
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090	AVSS	0.5	1	B	AS4	090	AVSS	0.5	1	B	AS4
091	AVSS	0.5	1	B	AS4	091	AVSS	0.5	1	B	AS4
092	AVSS	0.5	1	B	AS4	092	AVSS	0.5	1	B	AS4
093	AVSS	0									



