



Intelligent Engine Cooling



MONZATECH

INTELLIGENT ENGINE COOLING





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ITALIANO → PAGINE 3 - 36



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**SI CONSIGLIA L'USO DEL MANTENITORE
DELLA BATTERIA IN CASO DI
FERMO PROLUNGATO DEL VEICOLO**



! ATTENZIONE !

NON ATTIVARE MAI LA POMPA A SECCO!

*LA TENUTA MECCANICA AL SUO INTERNO DEVE
ASSOLUTAMENTE LAVORARE LUBRIFICATA.*





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SMONTAGGIO CARENE E RIMOZIONE CIRCUITO DI RAFFREDDAMENTO ORIGINALE (FARE RIFERIMENTO ALLE ISTRUZIONI UFFICIALI DUCATI)



- RIMUOVERE LE CARENE LATERALI E IL CUPOLINO FACENDO RIFERIMENTO AL MANUALE DI OFFICINA DELLA MOTO
- RIMUOVERE SELLA PASSEGGERO , GUIDATORE, VASCA PORTAOGGETTI, SERBATOIO E AMMORTIZZATORI DI STERZO



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SCARICARE IL CIRCUITO DI RAFFREDDAMENTO



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- RIMUOVERE LA VITE DI SPURGO POSIZIONATA SULLA POMPA DI RAFFREDDAMENTO MECCANICA, PER SCARICARE LA PRIMA PARTE DI LIQUIDO DI RAFFREDDAMENTO
- RIMUOVERE IL TAPPO DEL RADIATORE PER DRENARE COMPLETAMENTE IL SISTEMA DI RAFFREDDAMENTO.
- REINSTALLARE LA VITE PRECEDENTEMENTE RIMOSSA.

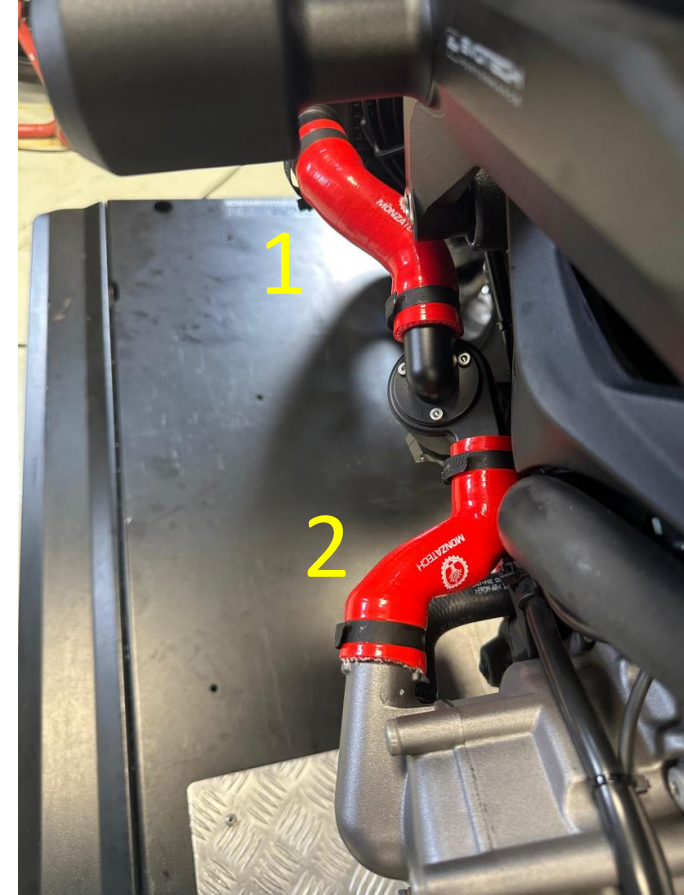


FASE 2

POSIZIONAMENTO POMPA MONZATECH



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- FISSARE LA STAFFA AD L ALLA BUGNA FILETTATA SUL CILINDRO ANTERIORE UTILIZZANDO LE APPOSITE VITI.
- FISSARE LA STAFFA AL MOTORE SUL LATO LUNGO DELLA STAFFA STESSA (ATTENZIONE AL VERSO DEL FLUSSO DELLA POMPA, DEVE ESSERE COME IN FIGURA)



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Punto fissaggio pompa

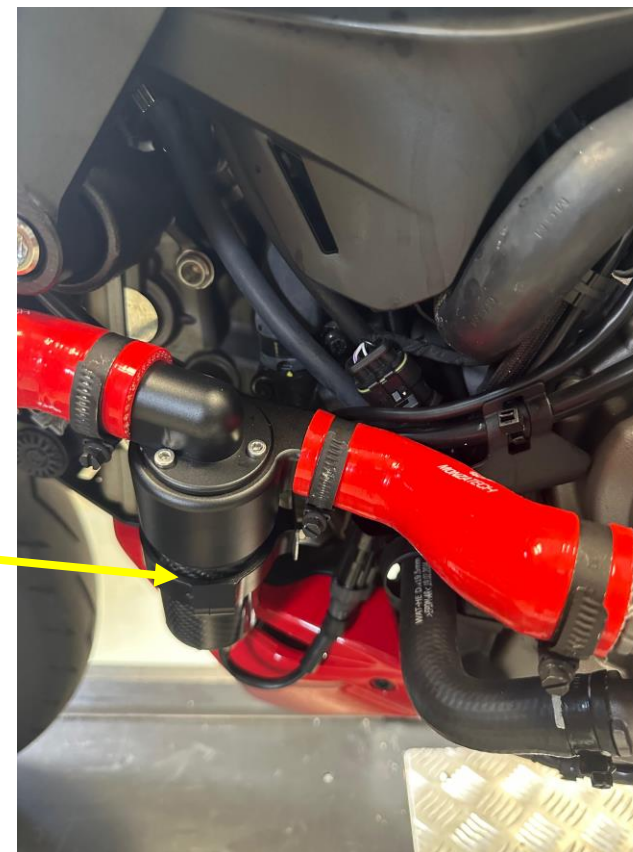
Punto fissaggio motore

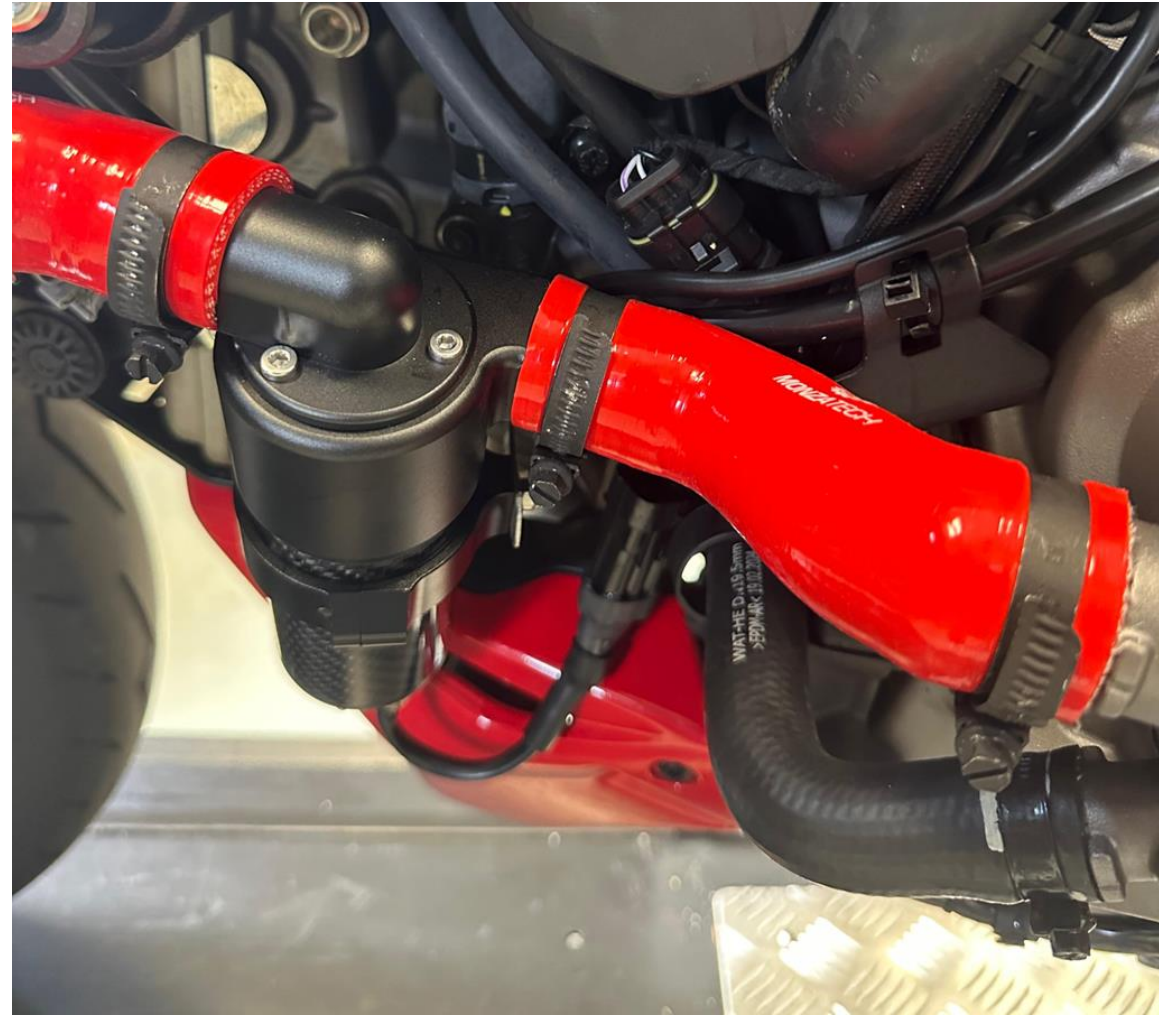




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- FISSARE LA STAFFA A COLLARE CHE TIENE LA POMPA SULLA STAFFA AD L CON LE APPOSITE VITI





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! ATTENZIONE !



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NON ATTIVARE MAI LA POMPA A SECCO!

*LA TENUTA MECCANICA AL SUO INTERNO DEVE
ASSOLUTAMENTE LAVORARE IN PRESENZA DI ACQUA.*



RIEMPIMENTO CIRCUITO DI RAFFREDDAMENTO



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- ❶ L'IMPIANTO DI RAFFREDDAMENTO È ORA COMPLETO E CHIUSO
- ❷ PRIMA DI PROCEDERE AL RIEMPIMENTO DEL CIRCUITO, ASSICURARSI DI AVER STRETTO BENE LE FASCETTE METALLICHE NERE
- ❸ VERSARE ALL'INTERNO DEL RADIATORE IL LIQUIDO DI RAFFREDDAMENTO PRECEDENTEMENTE SPURGATO
- ❹ CONSIGLIAMO DI SCHIACCIARE 3-4 VOLTE I TUBI IN SILICONE PER PERMETTERE ALL'EVENTUALE ARIA PRESENTE NELL'IMPIANTO DI FUORIUSCIRE

N.B: RIPETERE TALE OPERAZIONE FINO A CHE IL LIVELLO DEL LIQUIDO DI RAFFREDDAMENTO NEL RADIATORE RIMANE COSTANTE ALL'INTERNO DI QUEST'ULTIMO

- ❺ RIEMPIRE COMPLETAMENTE IL RADIATORE
- ❻ CHIUDERE IL TAPPO DEL RADIATORE





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MONTAGGIO *ECU MONZATECH*



POSIZIONAMENTO CENTRALINA MONZATECH



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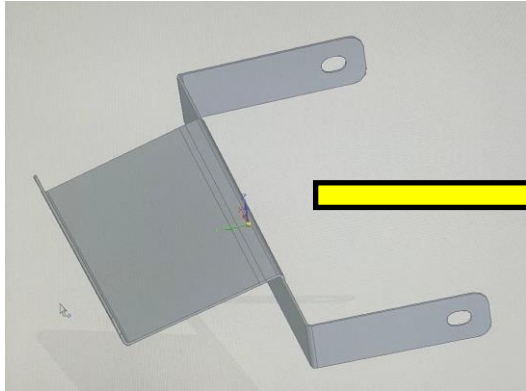
 RIMUOVERE COMPLETAMENTE LA SELLA DELLA MOTO.



INSERIRE LA STAFFA NELLO SPAZIO SOTTO LA SEDUTA DEL PASSEGGERO.



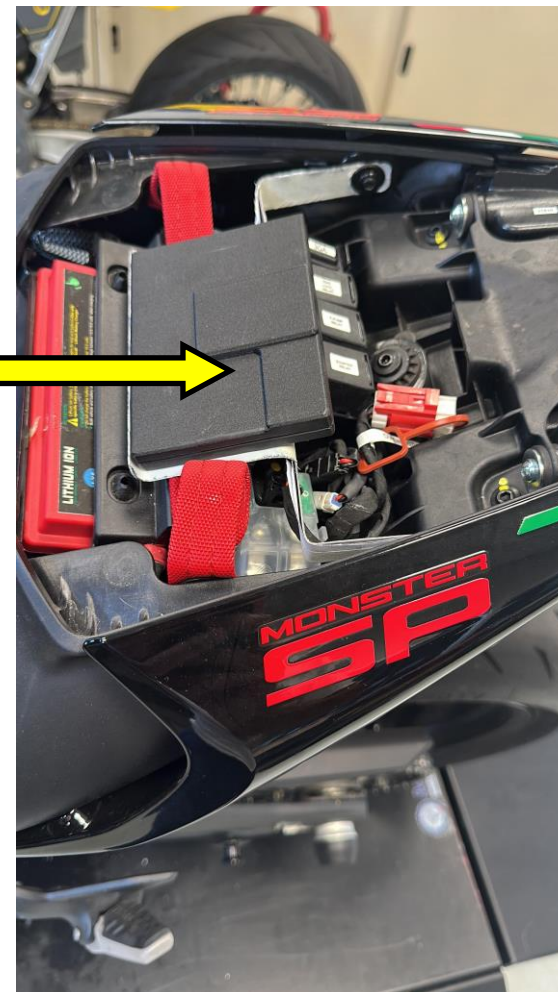
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FARE ATTENZIONE A NON PREMERE LA STAFFA
SUI CAVI



INSERIRE LA CENTRALINA SOPRA LA STAFFA E FISSARLA CON BIADESIVO.



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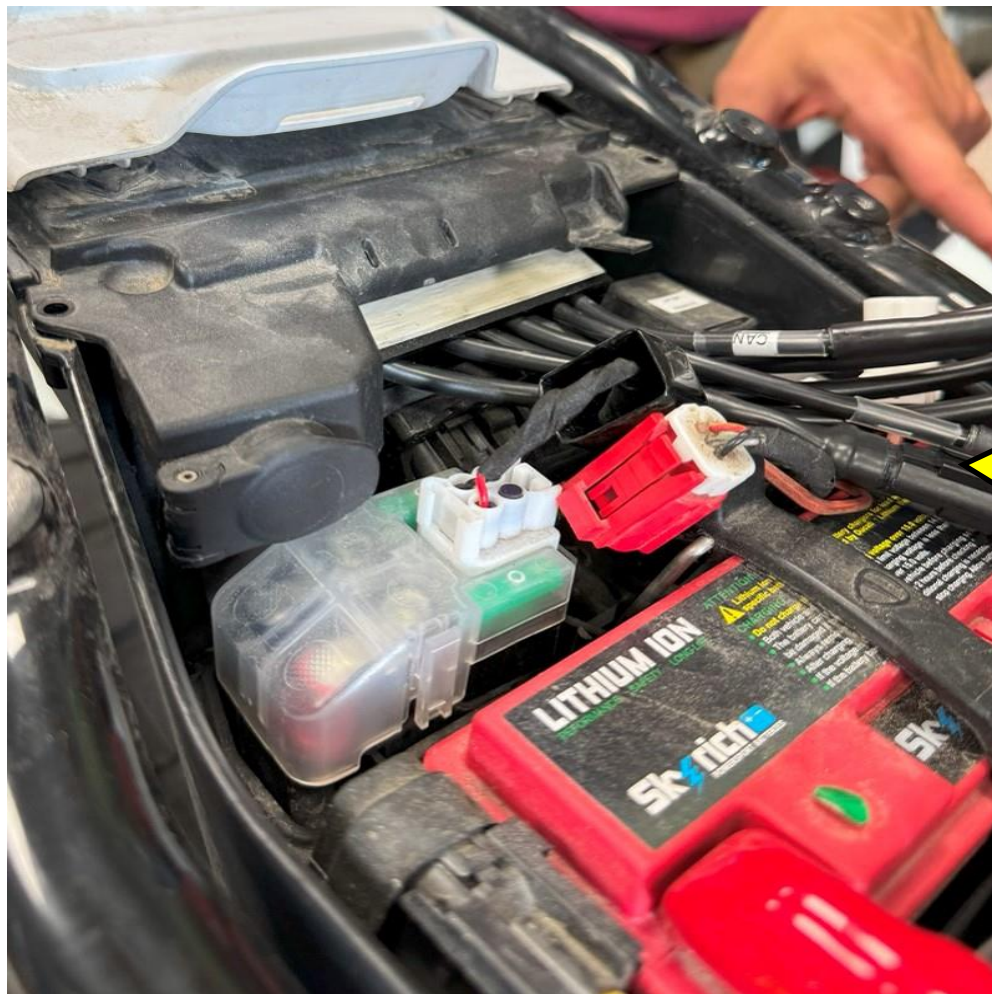
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COLLEGAMENTO CAVI





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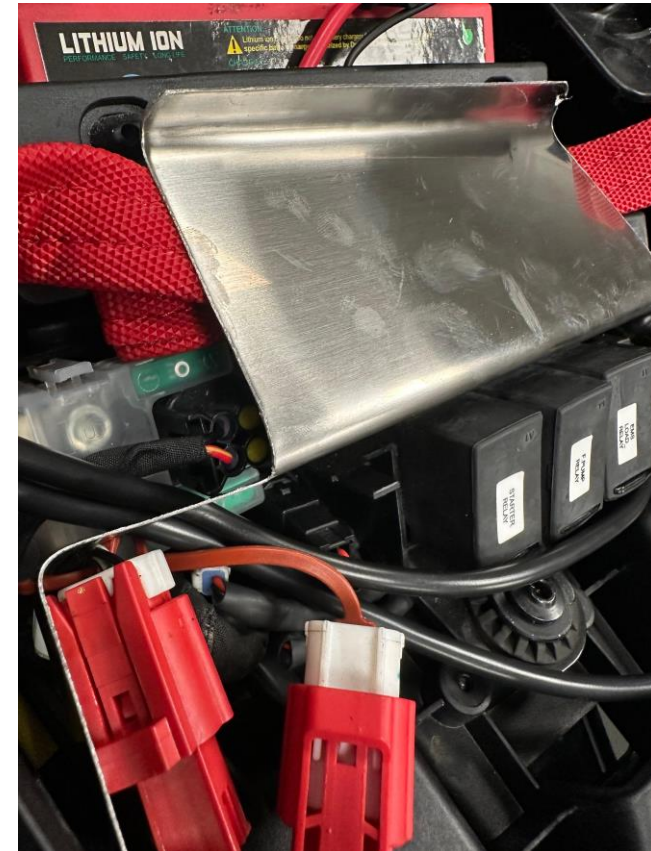
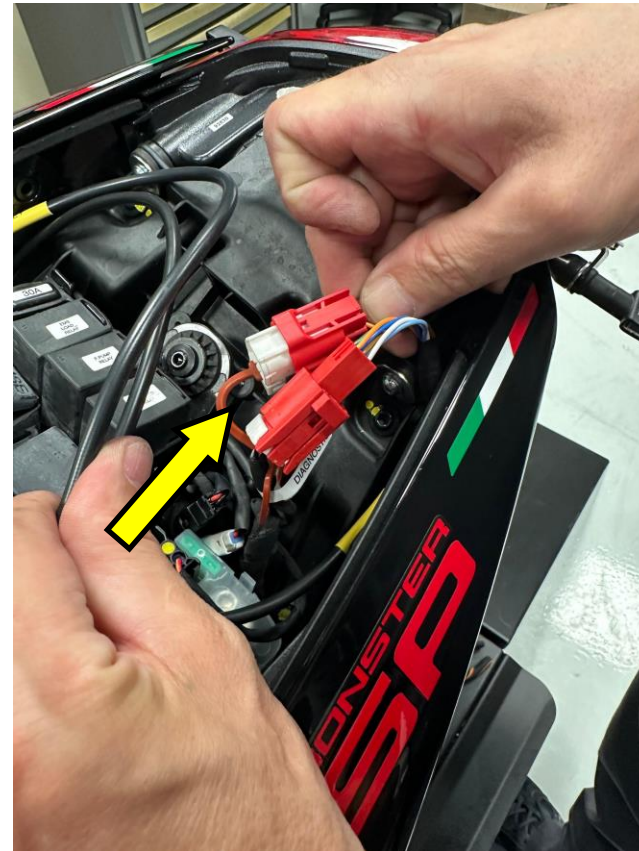


DIVIDERE E PORTARE NELLA PARTE SINISTRA DELLA MOTO I CAVI DENOMINATI
KEY, LED, POMPA, FAN1

DIVIDERE E PORTARE NELLA PARTE DESTRA DELLA MOTO I CAVI DENOMINATI
FAN2



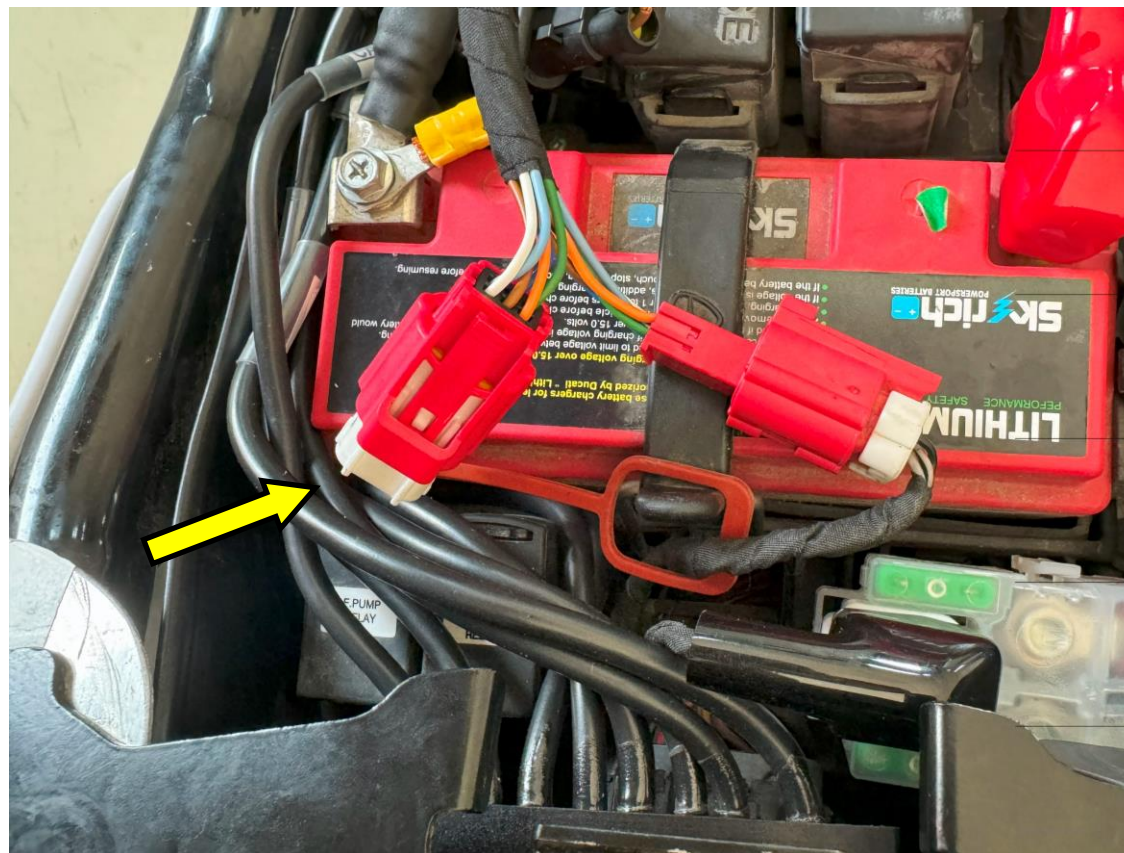
- 1) RIMUOVERE LA PROTEZIONE DEL CAVO CAN (SPINOTTO BIANCO)
- 2) COLLEGARLO CON LO SPINOTTO CAN (ROSSO) DELLA CENTRALINA
- 3) ALLOGGIARE CAVI CAN COME NELL'ULTIMA IMMAGINE





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- ❶ TOGLIERE IL TAPPO DAL CONNETTORE ORIGINALE (FOTO 1) E COLLEGARE IL CAVO ETICHETTATO **CAN** DELLA CENTRALINA **MONZATECH** COME IN FIGURA 2.
- ❷ APPLICARE IL TAPPO TOLTO PRECEDENTEMENTE SUL CONNETTORE SCOPERTO INDICATO IN FIGURA 2.





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 QUESTO CAVO CONSENTE AL SISTEMA **IEC – INTELLIGENT ENGINE COOLING** DI CONNETTERSI ALLA CENTRALINA DELLA MOTO.

IL SISTEMA ACQUISISCE I DATI DELLA TEMPERATURA DEL LIQUIDO DEL CIRCUITO DI RAFFREDDAMENTO DEL MOTORE VIA CAN-BUS E TRAMITE UN SENSORE AGGIUNTIVO INCLUSO NELLA POMPA.

LA CENTRALINA **MONZATECH** ELABORA I DATI ACQUISITI, DETERMINA LO STATO DI RAFFREDDAMENTO DEL MOTORE E, DI CONSEGUENZA, COMANDA LA POMPA E LE VENTOLE, PER AUMENTARE O DIMINUIRE, IL FLUSSO DEL LIQUIDO DI RAFFREDDAMENTO E DELL'ARIA, AL FINE DI GARANTIRE LA TEMPERATURA OTTIMALE PER IL FUNZIONAMENTO DEL MOTORE.

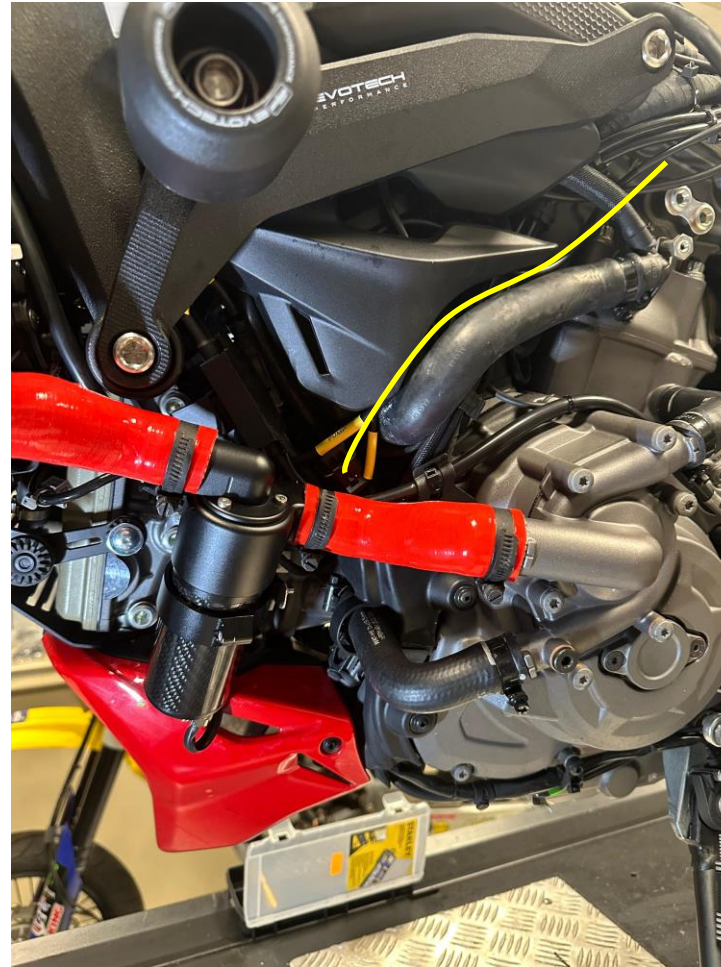
 IL CAVO **CAN** È SDOPPIATO IN MODO DA MANTENERE INALTERATE LE FUNZIONALITÀ DEL CONNETTORE ORIGINALE SIA PER LA PARTE DI DIAGNOSTICA CHE PER IL MANTENITORE DI CARICA DELLA BATTERIA, NEL CASO SIA PREVISTA QUESTA FUNZIONALITÀ.



- APRIRE LA FUSIBILIERA INDICATA IN FIGURA 1
- PRELEVARE IL FUSIBILE NUMERO 5 DELLA FUSIBILIERA INDICATA IN FIGURA SOTTO E INSERIRLO NEL TAP FUSE CONNESSO AL CAVO ETICHETTATO **KEY** DEL CABLAGGIO **MONZATECH** COME MOSTRATO IN FIGURA 2
- INSERIRE IL TAP FUSE NELLO STESSO POSTO DEL FUSIBILE RIMOSSO IN PRECEDENZA (FIGURA 3)
- RICHIUDERE SPORTELLINO FUSIBILIERA (FIGURA 3)

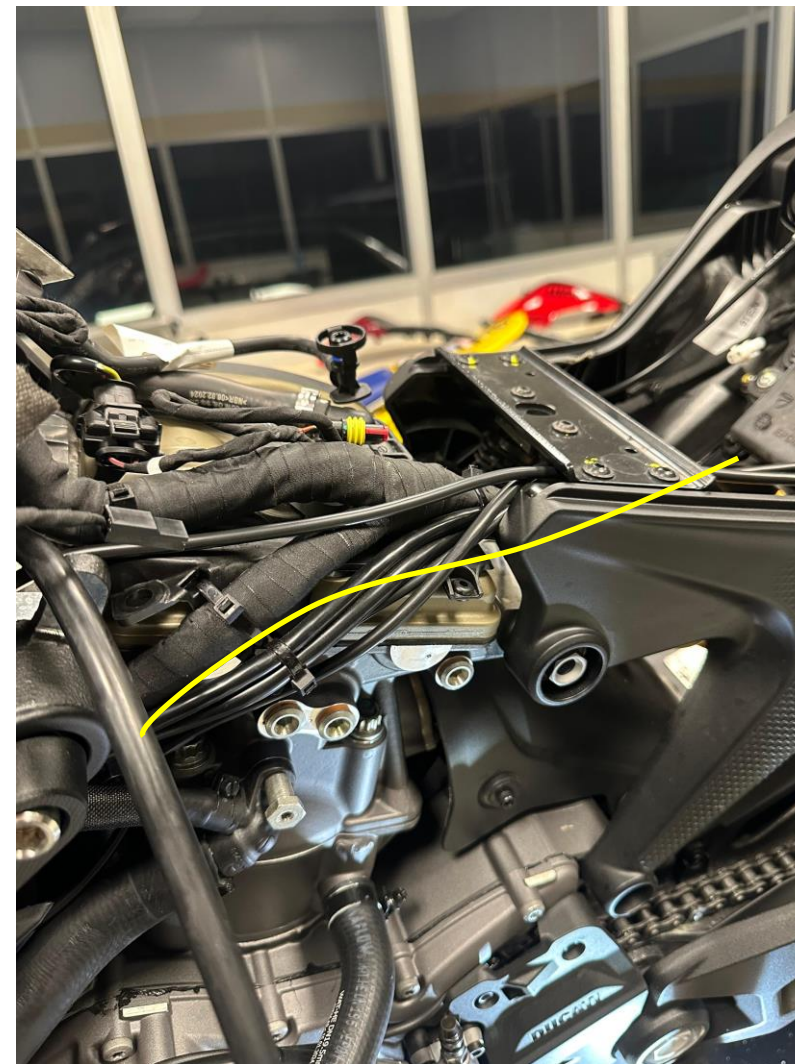
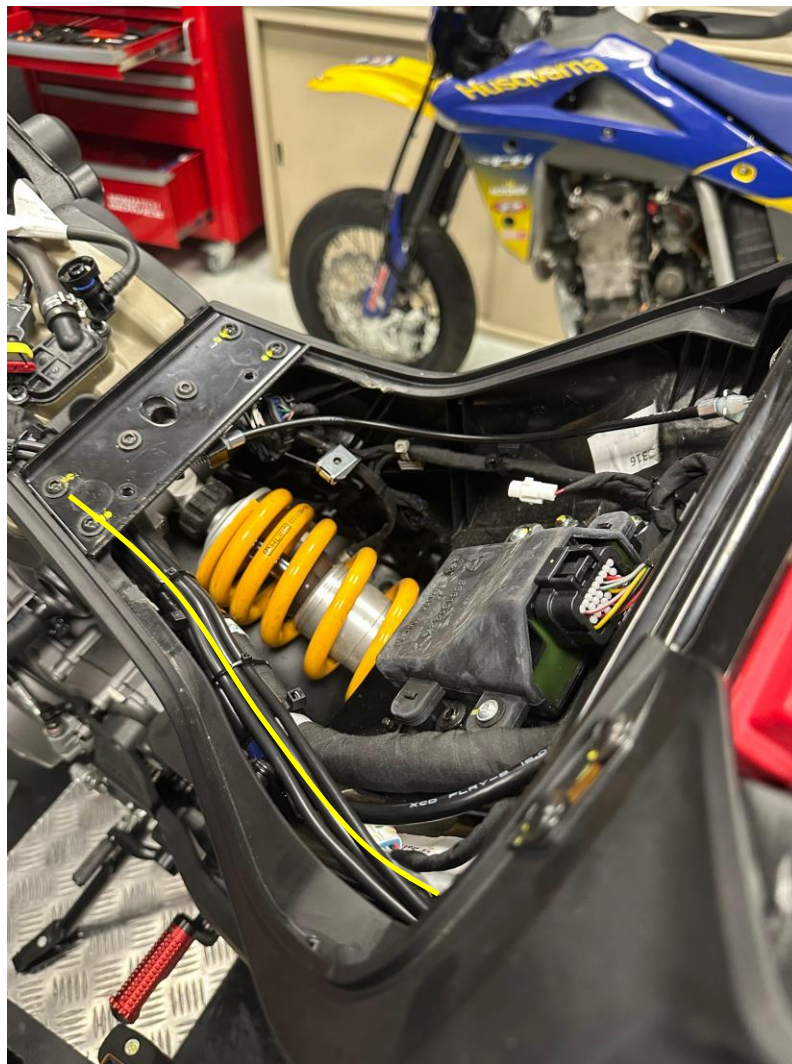


- PASSARE CON IL CONNETTORE POMPA DIETRO AL TELAIO SEGUENDO CABLAZIONE E CAVI ORIGINALI DELLA MOTO FACENDO ATTENZIONE A NON SCHIACCIARLI E A NON APPOGGIARLI AL MOTORE.



CAVO POMPA

- ❶ CONNETTERE IL CAVO IN USCITA DALLA POMPA CON IL CAVO ETICHETTATO **PUMP** IN USCITA DALLA CENTRALINA, NASCONDENDO IL CONNETTORE DIETRO LA POMPA E FACENDO FARE IL GIRO AL CAVO COME EVIDENZIATO IN FIGURA
- ❷ FISSARE CON UNA FASCETTA



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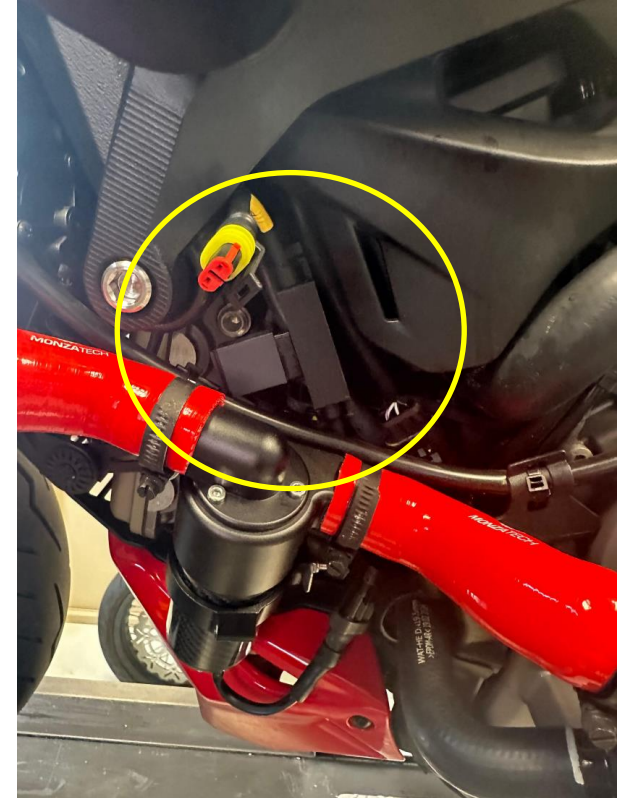
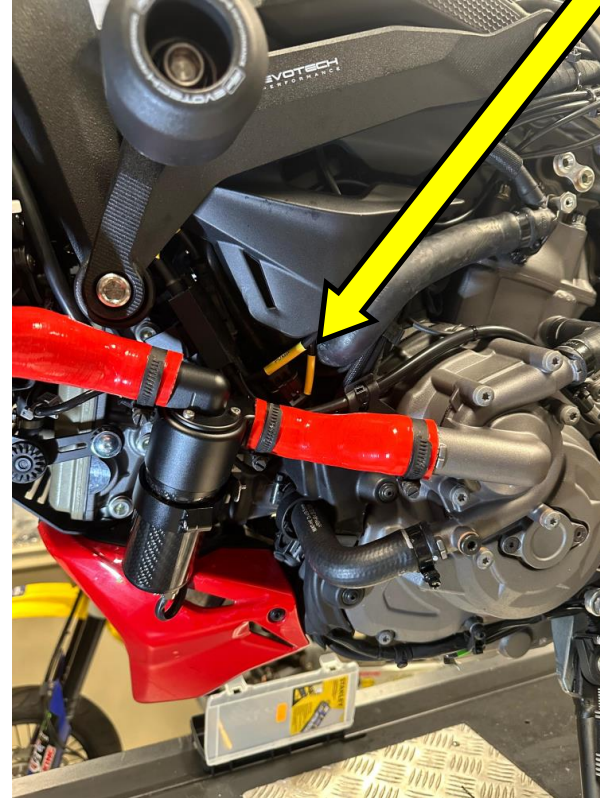


FAN-1 (VENTOLA DI SINISTRA)



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- ❶ FAR PASSARE IL CAVO **FAN1** USCENTE DALLA CENTRALINA COME INDICATO NELLA FIGURA.
- ❷ DISCONNETTERE I CONNETTORI ORIGINALI DELLA VENTOLA E CONNETTERLI A QUELLI LIBERI DEL CABLAGGIO CON IL RELE'
- ❸ PER COMODITÀ RIMUOVETE LE VITI SUPERIORI DEL RADIATORE IN MODO DA LAVORARE MEGLIO
- ❹ POSIZIONO RELÈ COME NELLA TERZA FOTO

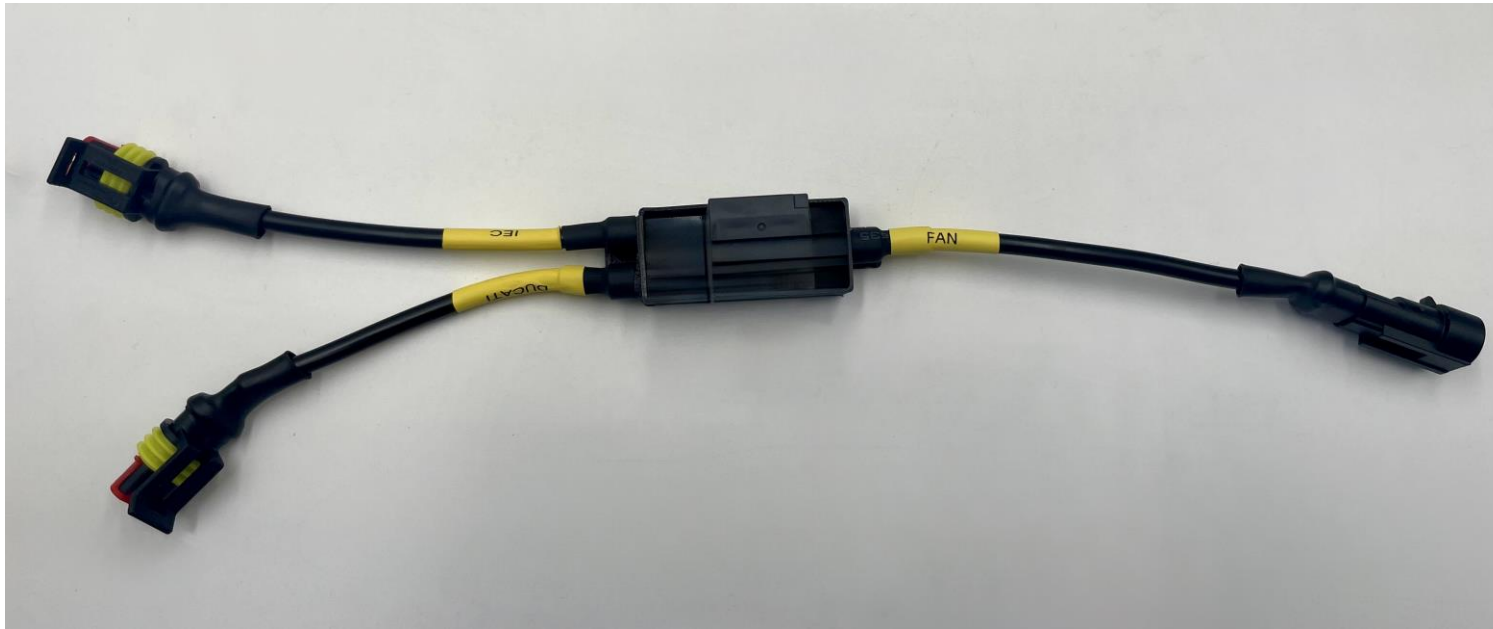


FAN-1 (VENTOLA DI SINISTRA)

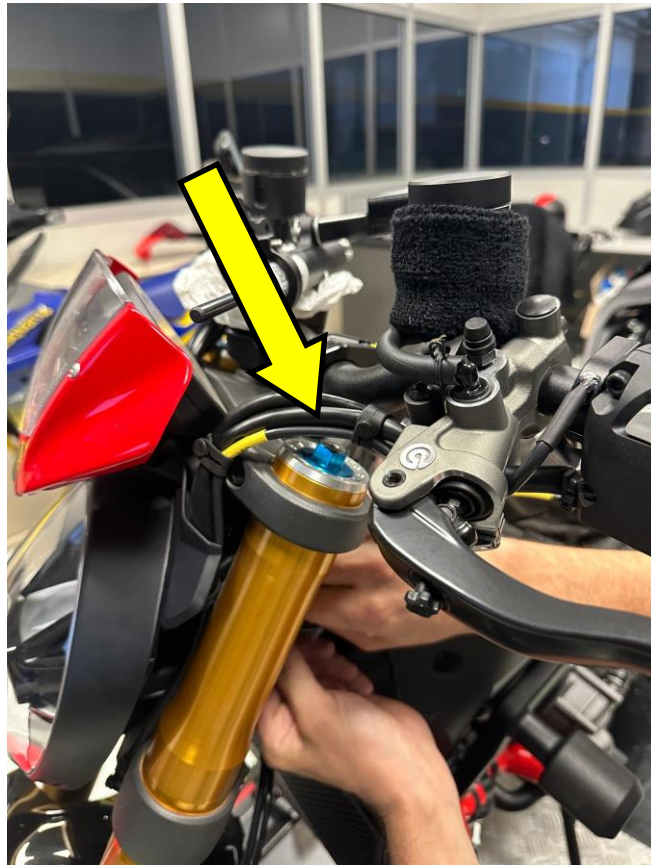
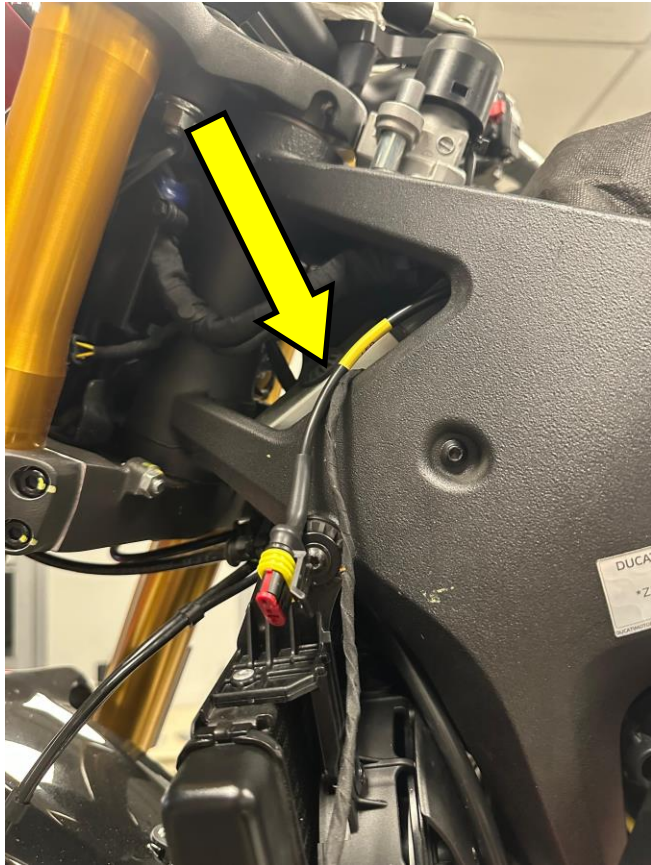


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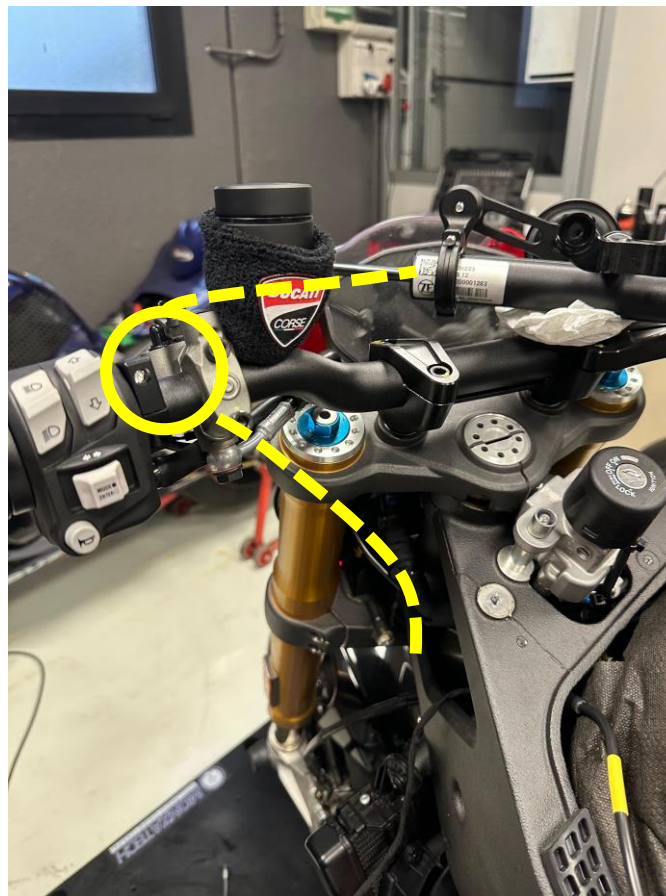
- ❶ DISCONNETTERE IL CONNETTORE DELLA VENTOLA SINISTRA.
- ❷ COLLEGARE IL CONNETTORE USCENTE DALLA VENTOLA SINISTRA, AL CAVO DEL RELÈ **MONZATECH** ETICHETTATO **FAN**.
- ❸ COLLEGARE IL CAVO ETICHETTATO **IEC** DEL RELÈ AL CAVO ETICHETTATO **FAN1** USCENTE DALLA CENTRALINA
- ❹ COLLEGARE IL CAVO ETICHETTATO **DUCATI** DEL RELÈ AL CABLAGGIO ORIGINALE DI ALIMENTAZIONE DELLA VENTOLA



- DISCONNETTERE LA PARTE DI CAVO CON IL COLLARE IN ALLUMINIO
- FAR PASSARE IL CAVO ETICHETTATO **LED** COME IN FIGURA



- FISSARE IL ***COLLARE LED*** AL MANUBRIO COME IN FIGURA, CON ANGOLAZIONE TALE DA ESSERE BEN VISIBILE UNA VOLTA IN SELLA. ASSIEMARE IL CAVO AI CAVI DEL BLOCCHETTO COMANDI DI SINISTRA USANDO LE FASCETTE IN GOMMA DEL CABLAGGIO ORIGINALE.



● RICONNETTERE AL CABLAGGIO LA TERMINAZIONE PRECEDENTEMENTE RIMOSSA E FISSATA A MANUBRIO



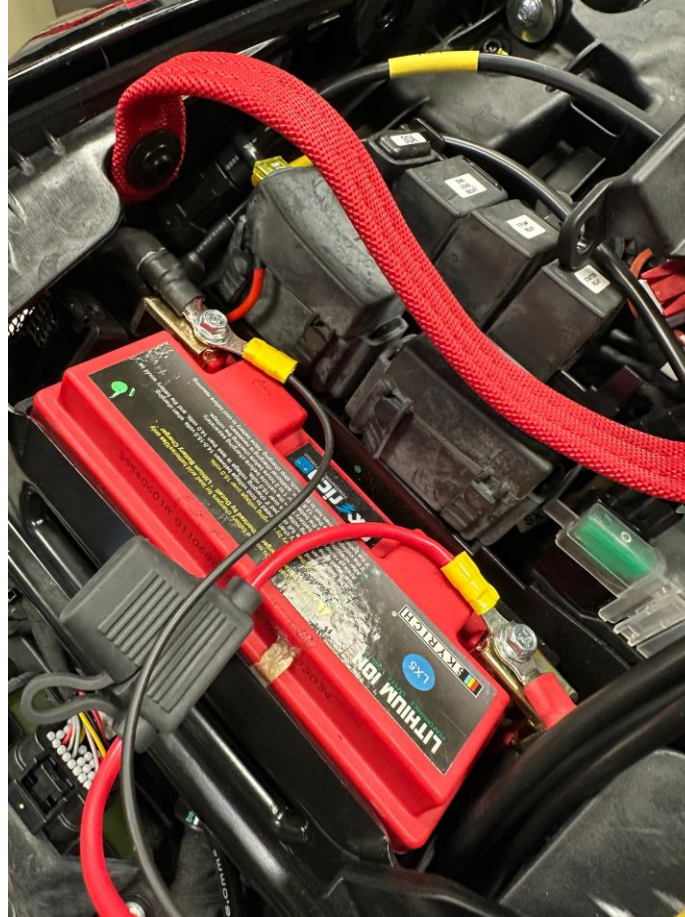
DIAGNOSTICA:

- LED VERDE: IL SISTEMA FUNZIONA CORRETTAMENTE
- LED ROSSO: WARNING!

 FAR PASSARE IL CAVO ETICHETTATO **PC** SOTTO LA STAFFA DI SICUREZZA DEL VANO BATTERIA



⦿ FAR PASSARE IL CAVO ETICHETTATO **BATTERY** E CONNETTERLI AI MORSETTI DELLA BATTERIA





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***IL SISTEMA REGOLA E GESTISCE AUTOMATICAMENTE IL
FUNZIONAMENTO IN BASE ALLA TEMPERATURA DEL MOTORE.
A MOTORE FREDDO È NORMALE PERCEPIRE L'ATTIVITÀ
PULSANTE DELLA POMPA.
AL MOMENTO DELLO SPEGNIMENTO IL SISTEMA CONTINUERÀ
A RAFFREDDARE IL MOTORE PER CIRCA 60 SECONDI,
PREVENENDO EVENTUALI SHOCK TERMICI***





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FASE 5

GODITI IL VIAGGIO!





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ENGLISH VERSION STARTS NOW





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**A BATTERY MAINTAINER IS RECOMMENDED
IF THE VEHICLE WILL BE
OUT OF USE FOR A LONG TIME**



! ATTENTION !

NEVER ACTIVATE THE PUMP DRY
THE MECHANICAL SEAL INSIDE MUST ABSOLUTELY
WORK LUBRIFICATED.





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FAIRING DISASSEMBLY AND REMOVAL OF ORIGINAL COOLING CIRCUIT (REFER TO OFFICIAL DUCATI INSTRUCTIONS)



- REMOVE THE SIDE FAIRINGS AND THE WINDSHIELD REFERRING TO THE MOTORCYCLE'S WORKSHOP MANUAL
- REMOVE PASSENGER SEAT, RIDER SEAT, STORAGE COMPARTMENT, FUEL TANK, AND STEERING DAMPERS



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DRAIN THE COOLING SYSTEM.

-REMOVE THE BLEED SCREW LOCATED ON THE MECHANICAL WATER PUMP TO DRAIN THE FIRST PART OF THE COOLANT.

-REMOVE THE RADIATOR CAP TO COMPLETELY DRAIN THE COOLING SYSTEM.

-REINSTALL THE PREVIOUSLY REMOVED SCREW.



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PHASE 2

MONZATECH PUMP POSITIONING



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- SECURE THE L-BRACKET TO THE THREADED BOSS ON THE FRONT CYLINDER USING THE APPROPRIATE SCREWS.
- FIX THE BRACKET TO THE ENGINE ON THE LONG SIDE OF THE BRACKET ITSELF (PAY ATTENTION TO THE PUMP FLOW DIRECTION, IT MUST BE AS SHOWN IN THE FIGURE).





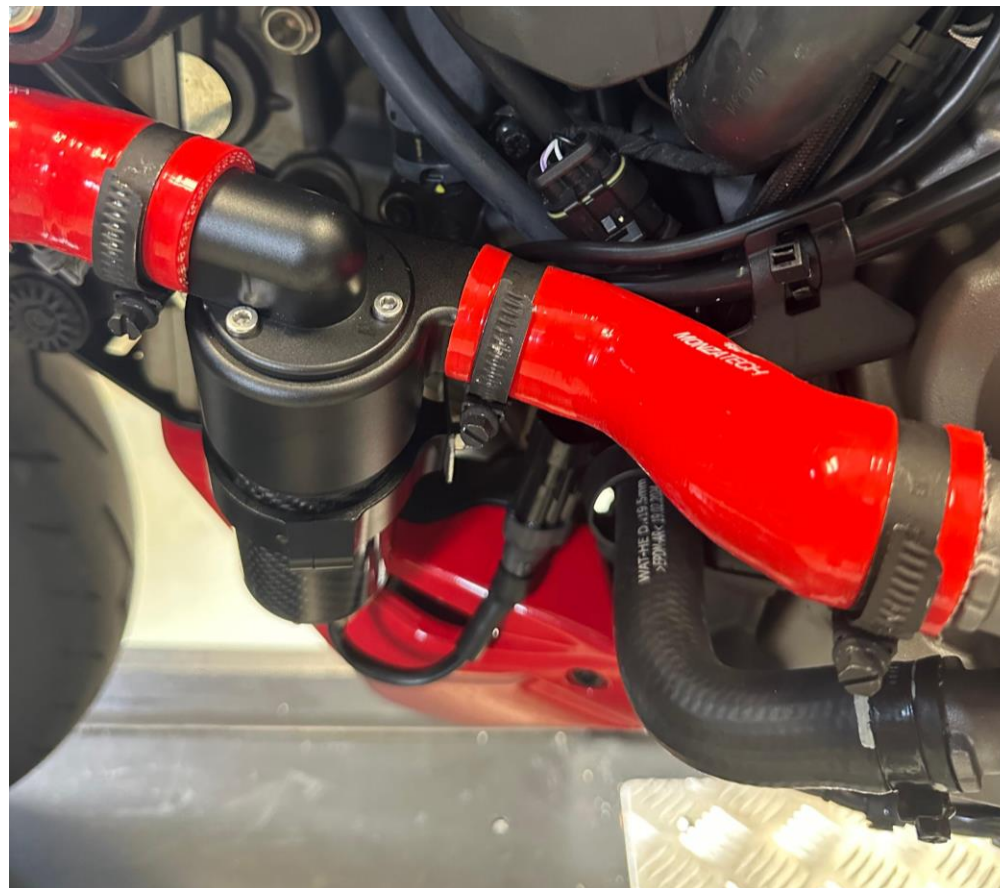
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FIX THE COLAR BRACKET THAT HOLDS THE PUMP TO THE L-BRACKET WITH THE APPROPRIATE SCREWS.





Intelligent Engine Cooling





Intelligent Engine Cooling



! ATTENTION !

NEVER ACTIVATE THE PUMP DRY
THE MECHANICAL SEAL INSIDE MUST ABSOLUTELY
WORK LUBRIFICATED.



FILLING THE COOLING CIRCUIT



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- ⦿ THE COOLING SYSTEM IS NOW COMPLETE AND CLOSED
 - ⦿ BEFORE FILLING THE CIRCUIT, MAKE SURE THAT THE BLACK METAL CLAMPS ARE TIGHTENED
 - ⦿ POUR THE PREVIOUSLY BLEED COOLANT INTO THE RADIATOR
 - ⦿ WE RECOMMEND PRESSING THE SILICONE TUBES 3-4 TIMES TO ALLOW ANY AIR IN THE SYSTEM TO REALASE
- N.B REPEAT THIS OPERATION UNTIL THE LEVEL OF COOLANT IN THE RADIATOR REMAINS CONSTANT
- ⦿ FILL THE RADIATOR COMPLETELY
 - ⦿ CLOSE THE RADIATOR CAP





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MONZATECH ECU ASSEMBLY



MONZATECH CONTROL UNIT POSITIONING

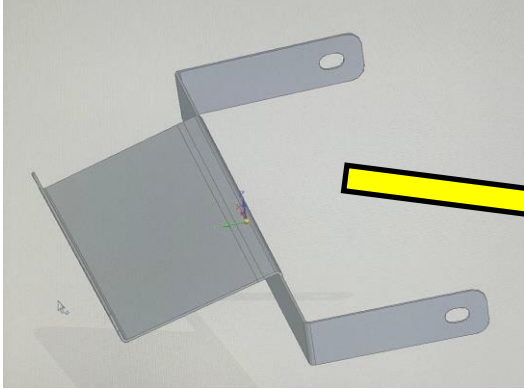


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⚙️ REMOVE THE MOTORCYCLE SEAT COMPLETELY



INSERT THE BRACKET INTO THE SPACE UNDER THE PASSENGER SEAT



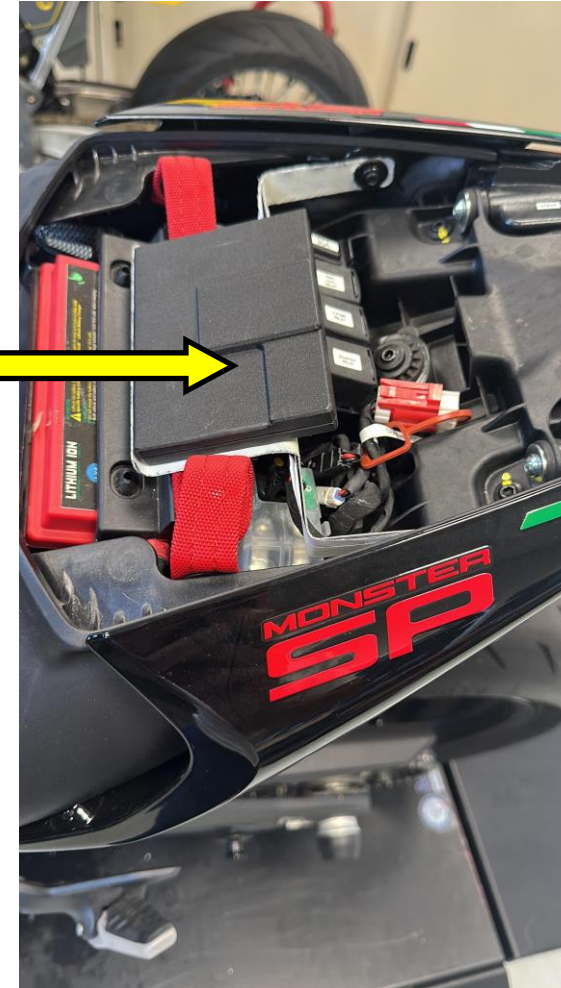
BE CAREFUL NOT TO PRESS THE BRACKET
AGAINST THE CABLES



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INSERT THE CONTROL UNIT ON TOP OF THE BRACKET AND SECURE IT WITH DOUBLE-SIDED ADHESIVE



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CABLE CONNECTIONS





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DIVIDE AND BRING TO THE LEFT SIDE OF THE MOTORCYCLE THE CABLES NAMED KEY, LED, PUMP, FAN1

SPLIT AND BRING THE CABLES CALLED FAN2 TO THE RIGHT SIDE OF THE MOTORCYCLES

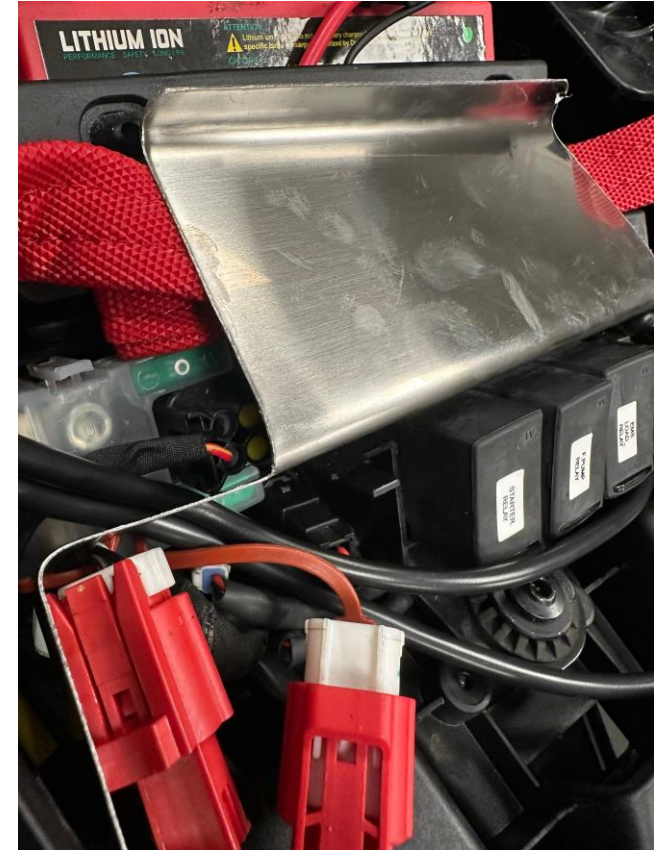
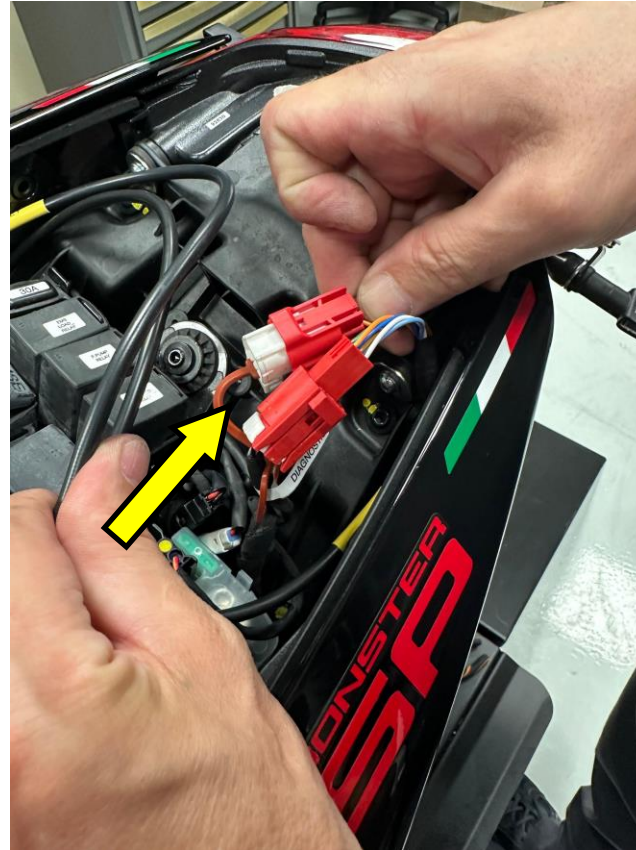


CAN CABLE

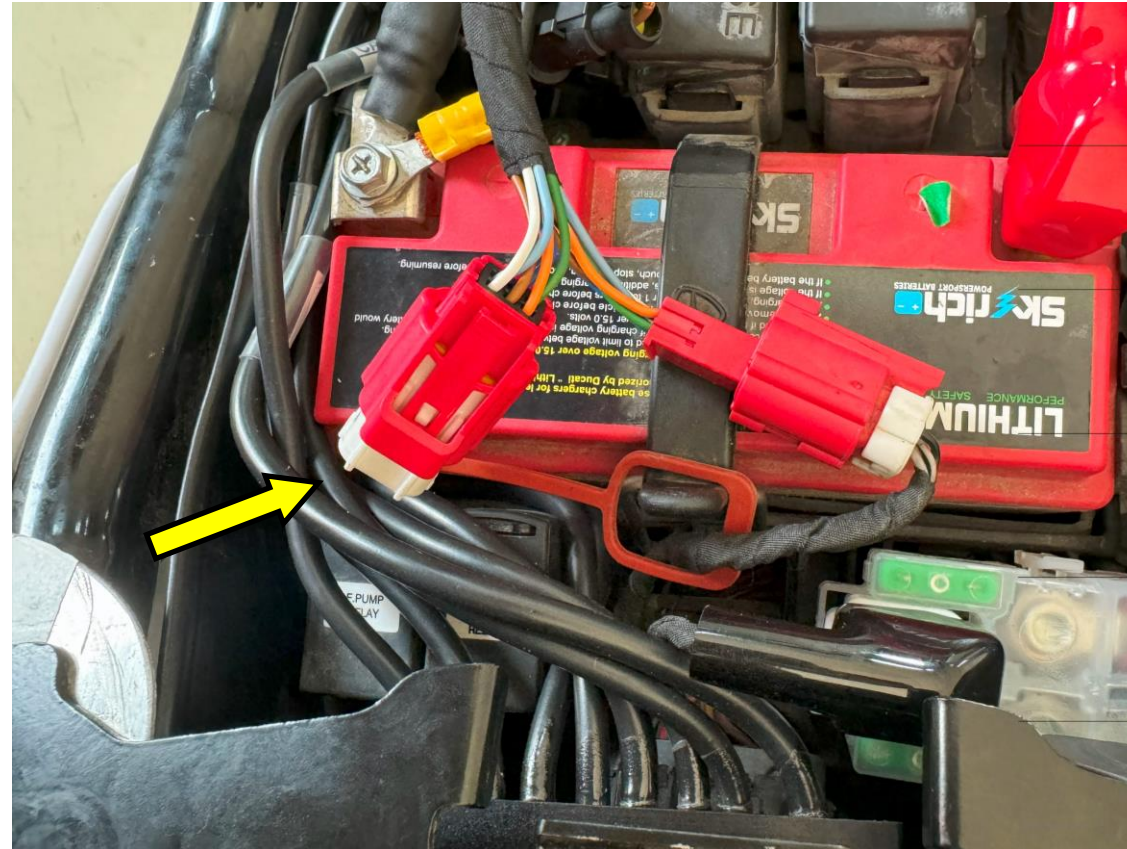


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- 1) REMOVE THE CAN CABLE PROTECTION (WHITE PLUG)
- 2) CONNECT IT TO THE CAN PLUG (RED) OF THE CONTROL UNIT
- 3) ROUTE THE CAN CABLES AS SHOWN IN THE LAST IMAGE



- ❶ REMOVE THE CAP FROM THE ORIGINAL CONNECTOR (PHOTO 1) AND CONNECT THE CABLE LABELED CAN OF THE MONZATECH CONTROL UNIT AS IN FIGURE 2.
- ❷ APPLY THE PREVIOUSLY REMOVED CAP TO THE EXPOSED CONNECTOR SHOWN IN FIGURE 2.





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 THIS CABLE ALLOWS THE IEC-INTELLIGENT ENGINE COOLING SYSTEM TO CONNECT TO THE MOTORCYCLE CONTROL UNIT.

THE SYSTEM ACQUIRES THE TEMPERATURE DATA OF THE ENGINE COOLING CIRCUIT LIQUID VIA CAN-BUS AND VIA AN ADDITIONAL SENSOR INCLUDED IN THE TEMP.

THE MONZATECH CONTROL UNIT PROCESSES THE ACQUIRED DATA, DETERMINES THE ENGINE COOLING STATUS AND, CONSEQUENTLY, CONTROLS THE PUMP AND FANS TO INCREASE OR DECREASE THE FLOW OF COOLANT AND AIR, IN ORDER TO GUARANTEE THE OPTIMAL TEMPERATURE FOR ENGINE OPERATION.

 THE CAN CABLE IS SPLIT IN ORDER TO MAINTAIN THE FUNCTIONALITY OF THE ORIGINAL CONNECTOR UNCHANGED BOTH FOR THE DIAGNOSTICS PART AND FOR THE BATTERY CHARGE MAINTAINER, IF THIS FUNCTIONALITY IS FORESEEN.



CABLE KEY



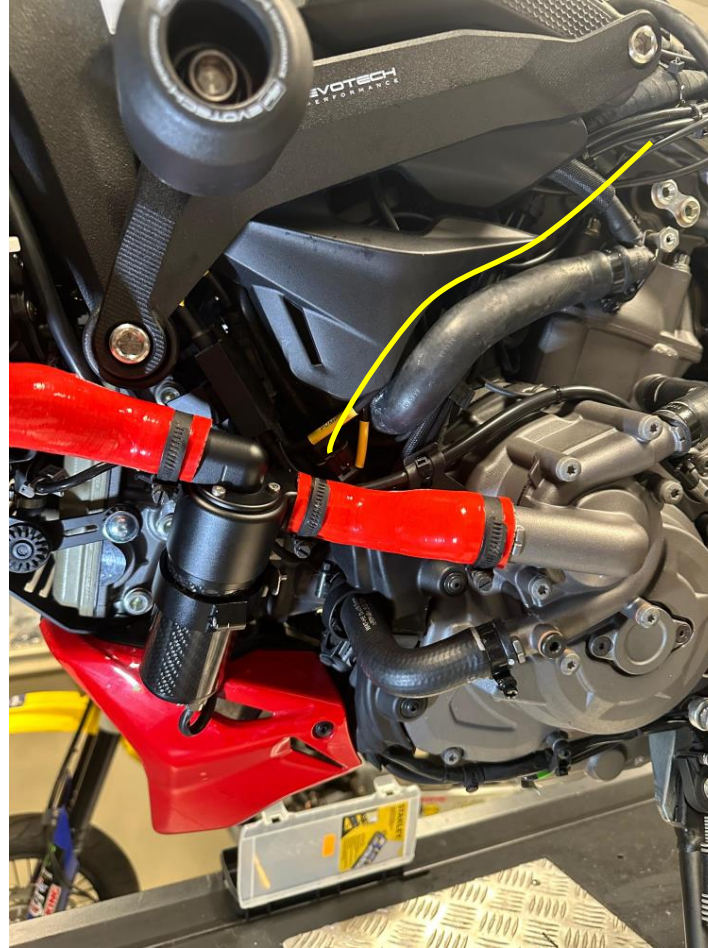
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- OPEN THE FUSE BOX SHOWN IN FIGURE 1
- REMOVE FUSE NUMBER 5 FROM THE FUSE BOX SHOWN IN THE FIGURE BELOW AND INSERT IT INTO THE TAP FUSE CONNECTED TO THE CABLE LABELLED KEY OF THE MONZATECH HARNESS AS SHOWN IN FIGURE 2.
- INSERT THE TAP FUSE IN THE SAME PLACE AS THE FUSE YOU REMOVED EARLIER (FIGURE 3)
- CLOSE THE FUSE BOX COVER (FIGURE 3)



PUMP CABLE

- ROUTE THE PUMP CONNECTOR BEHIND THE FRAME, FOLLOWING THE MOTORCYCLE'S ORIGINAL WIRING AND CABLES, TAKING CARE NOT TO CRUSH THEM AND NOT TO PLACE THEM AGAINST THE ENGINE.

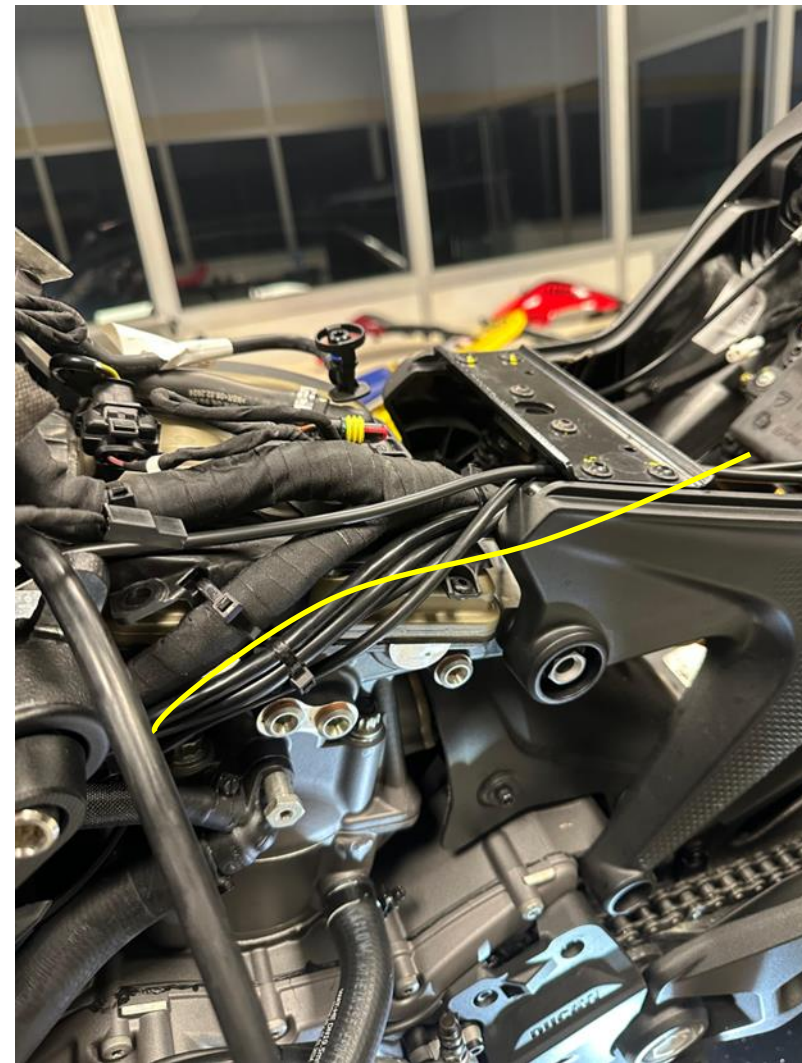


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PUMP CABLE

- CONNECT THE CABLE COMING OUT OF THE PUMP WITH THE CABLE LABELLED PUMP COMING OUT OF THE CONTROL UNIT, HIDING THE CONNECTOR BEHIND THE PUMP AND MAKING THE CABLE GO AROUND AS HIGHLIGHTED IN THE FIGURE
- SECURE WITH A CABLE TIE



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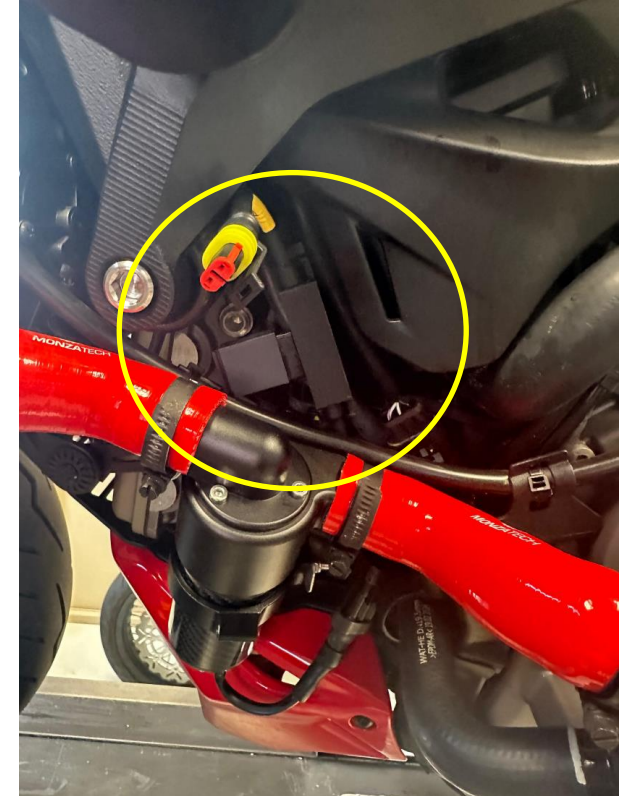
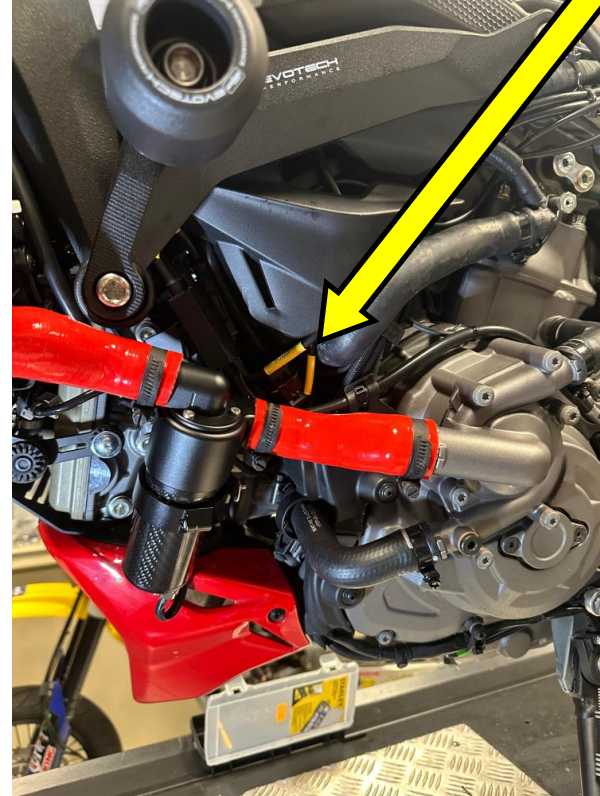




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FAN-1 (LEFT FAN)

- ROUTE THE FAN1 CABLE COMING OUT OF THE CONTROL UNIT AS SHOWN IN THE FIGURE.
- DISCONNECT THE ORIGINAL FAN CONNECTORS AND CONNECT THEM TO THE FREE CONNECTORS OF THE WIRING WITH THE RELAY.
- FOR CONVENIENCE, REMOVE THE UPPER RADIATOR SCREWS TO WORK MORE EASILY.
- POSITION THE RELAY AS SHOWN IN THE THIRD PHOTO.

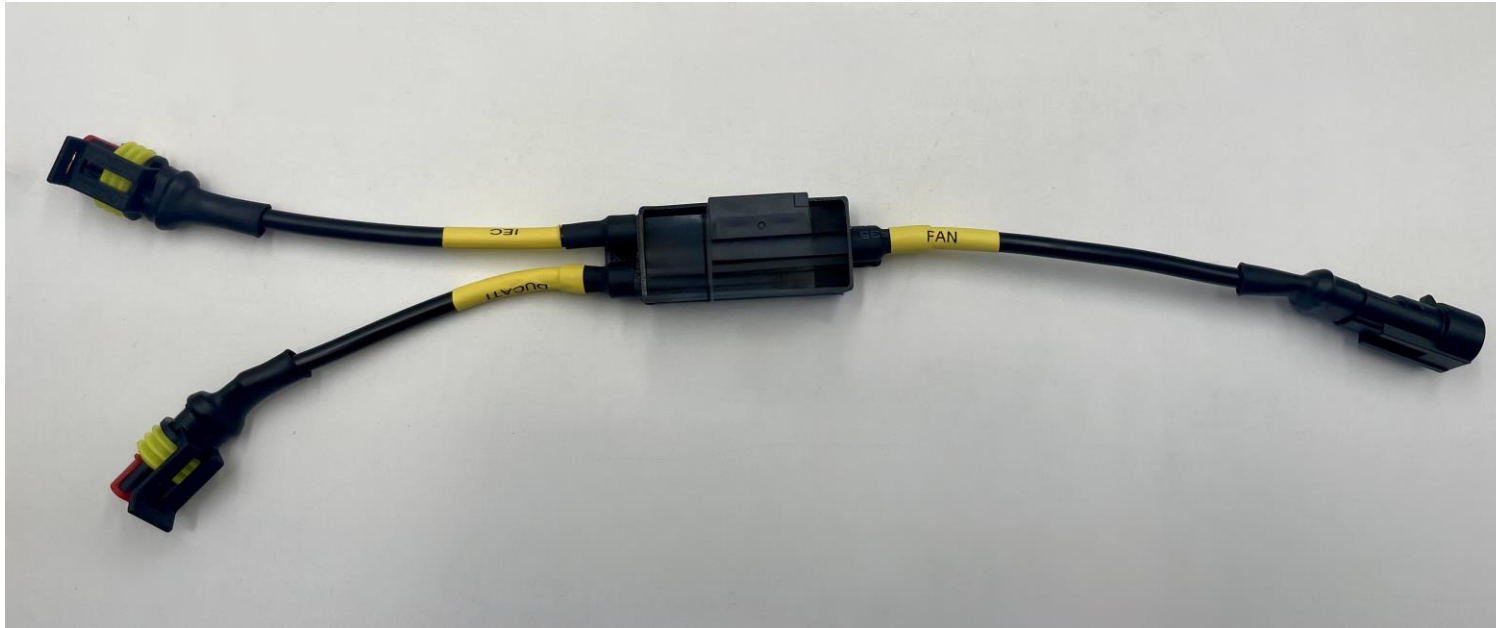


FAN-1 (LEFT FAN)

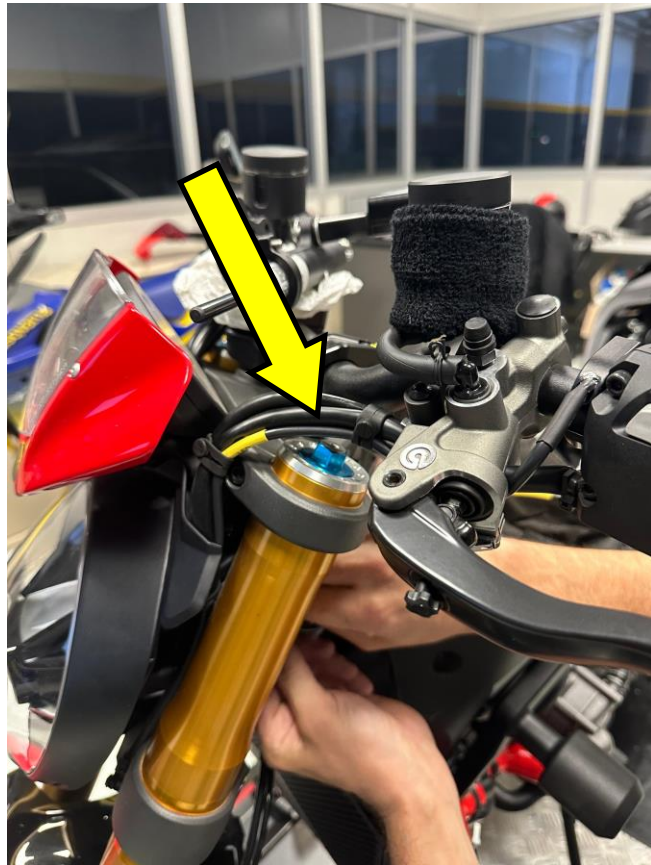
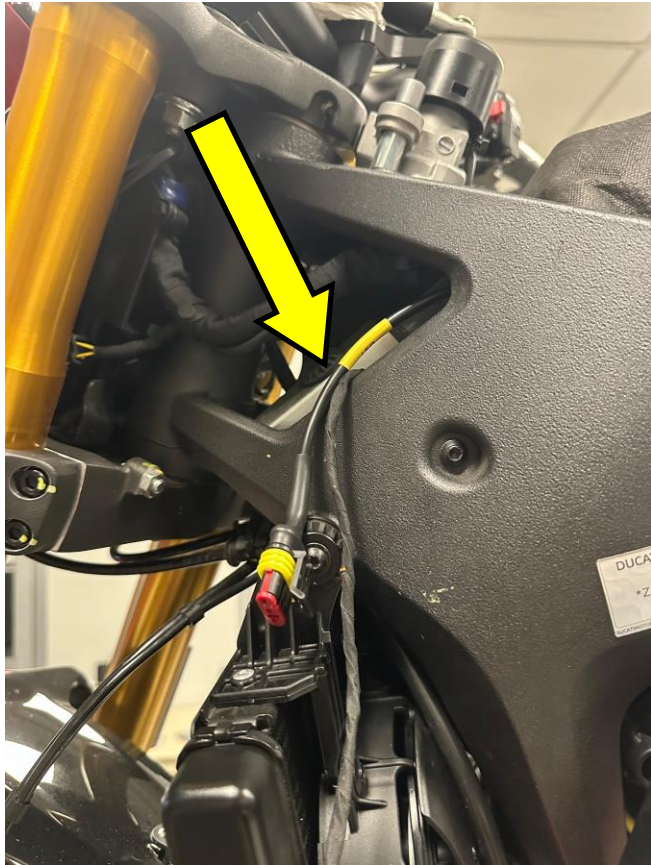


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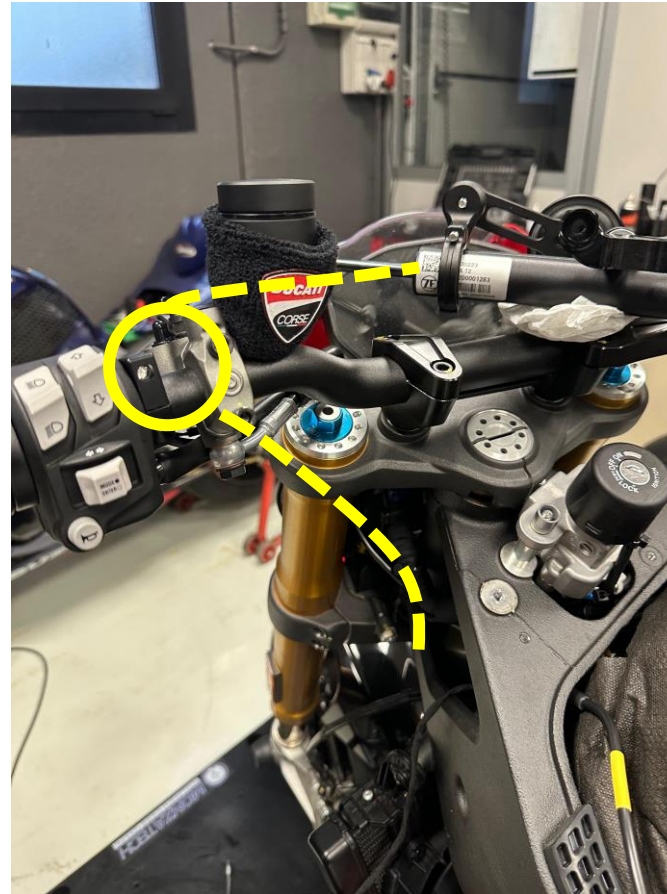
- DISCONNECT THE LEFT FAN CONNECTOR.
- CONNECT THE OUTPUT CONNECTOR FROM THE LEFT FAN, TO THE MONZATECH RELAY CABLE LABELED **FAN**.
- CONNECT THE RELAY CABLE LABELED **IEC** TO THE CABLE LABELED FANI COMING FROM THE CONTROL UNIT.
- CONNECT THE RELAY CABLE LABELED **DUCATI** TO THE ORIGINAL FAN POWER SUPPLY WIRING.



- DISCONNECT THE PART OF THE CABLE WITH THE ALUMINUM COLLAR
- PASS THE CABLE LABELED LED AS SHOWN IN THE FIGURE



- FIX THE LED COLLAR TO THE HANDLEBAR AS SHOWN IN THE FIGURE, AT AN ANGLE THAT IS CLEARLY VISIBLE ONCE ON THE SADDLE. ASSEMBLE THE CABLE TO THE LEFT CONTROL BLOCK CABLES USING THE RUBBER TIRES FROM THE ORIGINAL WIRING.



LED CABLE



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● RECONNECT THE PREVIOUSLY REMOVED AND FIXED TO THE HANDLEBAR TERMINATION TO THE WIRING



DIAGNOSTICS:

 **GREEN** LED: SYSTEM IS WORKING PROPERLY

 **RED** LED: WARNING!

-  RUN THE CABLE LABELED PC UNDER THE BATTERY COMPARTMENT SAFETY BRACKET

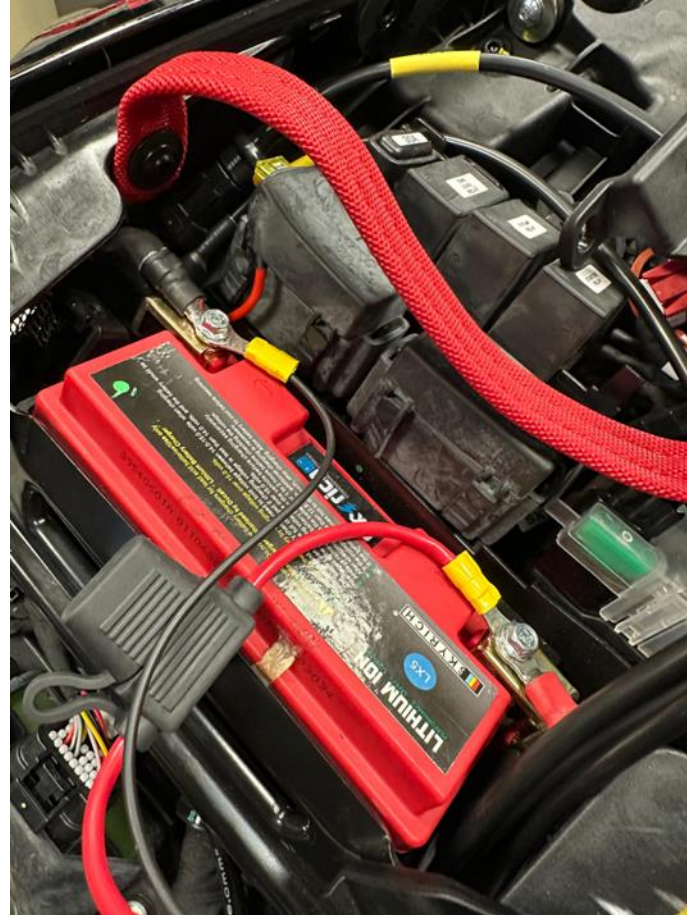


BATTERY CABLE



Intelligent Engine Cooling

● RUN THE CABLE LABELED BATTERY AND CONNECT THEM TO THE BATTERY TERMINALS





Intelligent Engine Cooling

*THE SYSTEM AUTOMATICALLY REGULATES AND MANAGES
OPERATION ACCORDING TO THE ENGINE TEMPERATURE.
WHEN THE ENGINE IS COLD, IT IS NORMAL TO NOTICE THE
PULSATING ACTIVITY OF THE PUMP.
WHEN SWITCHING OFF, THE SYSTEM WILL CONTINUE TO COOL THE
ENGINE FOR ABOUT 60 SECONDS, PREVENTING POSSIBLE
THERMAL SHOCKS*





Intelligent Engine Cooling

STEP 5

ENJOY YOUR RIDE!

