

CYLINDER LEAKAGE TESTER

1. SAFETY INSTRUCTIONS

Ensure that Health & Safety, local authority and general workshop practice regulations are strictly adhered to when using tools.

Maintain the equipment in good and clean condition for best and safest performance. DO NOT use if damaged.

If required, ensure that the vehicle to be worked on is adequately supported with axle stands, ramps and chocks.

WARNING: Select neutral (or 'park' if automatic transmission) and keep hands clear of the engine as engine rotation may occur when using this tool. The ignition MUST BE turned off.

WARNING: Turn regulator knob fully anti-clockwise before connecting to compressed air.

Excess pressure will damage the gauge and will invalidate the warranty.

Wear approved eye protection. A full range of personal safety equipment is available from your dealer.

Wear suitable clothing to avoid snagging. Do not wear jewellery and tie back long hair.

Account for all tools and parts being used and do not leave them in or near the engine.

IMPORTANT: Refer to the vehicle manufacturer's service instructions, or proprietary manual, to establish the current procedure and data. These instructions are provided as a guide only.

2. INTRODUCTION & APPLICATION

INTRODUCTION: It is used to test for cylinder leakage where poor engine performance is due to cylinder pressure loss. The tester allows workshop air to be directed into the cylinder and measures the percentage of loss. The constant supply of compressed air also allows faults to be pin-pointed by listening for the source of leakage.

APPLICATION: For use on petrol engines with 18 or 14 spark plugs.

3. INSTRUCTIONS FOR USE

3.1. LOCATION OF LISTENING POINTS

1. Oil Dipstick Tubefor leakage from damaged or worn rings and/or cylinder wall.
2. Radiator Filler.....for cylinder wall cracks or head gasket leakage.
3. Adjacent Cylinder.....for head gasket leakage.
4. Tail Pipefor exhaust valve leakage.
5. Carburetion Air inletfor Rake valve leakage.
6. Fuel in Throttle Bodyfor intake valve leakage.

3.2. CONNECTING THE SYSTEM

1. Run the engine until it reaches operating temperature.
2. Remove spark plugs, oil dipstick, radiator cap, air filter from carburettor or, if fuel injected, remove air filter or hose from the throttle body.
3. Position No. 1 piston at TDC on the compression stroke so that both inlet and exhaust valves are closed. Note: Always rotate the engine in the normal operating direction. To position the piston correctly use a piston position gauge and remove the cam/rocker cover so that closed valves can be confirmed.
4. Turn the regulator knob fully anti-clockwise. Connect the compressed air, which must be between 45 and 150psi, to the regulator. Turn the regulator knob clockwise until the gauge reads zero (at the end of the yellow 'Set' band).
5. Screw the cylinder hose into spark plug hole and then connect to the tester. The amount of leakage will show on the gauge as a percentage loss.
6. Test all other cylinders, each at me, and compare the leakage figures to determine which cylinders are faulty.
7. If necessary, retest the cylinder(s) showing high leakage. Check the listening points (see 3.1.) to determine the cause of the leakage.

3.3. HELPFUL SUGGESTIONS

1. If 100% or excessive leakage shows on gauge the cylinder may not be at me on the compression stroke. Check to ensure that the valves are closed. Always try to position piston at TDC for uniform results.
2. If rings are broken or cylinder walls are scored excessive leakage will be identified.
3. It is important that all cylinders have reasonably uniform readings (as in compression testing). Differences in excess of 15% indicate excessive leakage.
4. Large engines tend to leak more than small engines.
5. If leak is excessive on a vehicle with low mileage, piston rings may be stuck. Treat engine with quality tune-up oil for a period of time and then re-test before disassembling.
6. The lower the pitch of the leakage sound, the greater the leak.
7. To assist with listening use a length of clean hose, or a mechanic's stethoscope with the probe removed.
8. When making repeat tests on 100 same cylinder, variations in the piston position and engine temperature can cause gauge readings to differ by up to 10%.
9. If an engine has multiple faults (such as worn rings and burned valves), the tester may indicate only the most serious fault.

Note: There is always some leakage past the piston rings. As a result you will always hear some leakage when listening to the dipstick tube.

3.4.COMPRESSION FAULTS

Low compression reading on some cylinders.



Use oil in cylinder to see if rings are worn.



If compression increases,rings and/or cylinder wall are worn.



If compression does not rise,do a cylinder leakage test to determine source of problem

High relative compression readings and relatively equal cylinder readings.



But,if excessive exhaust emissions.lack of power,poor performance,or poor fuel consumption.



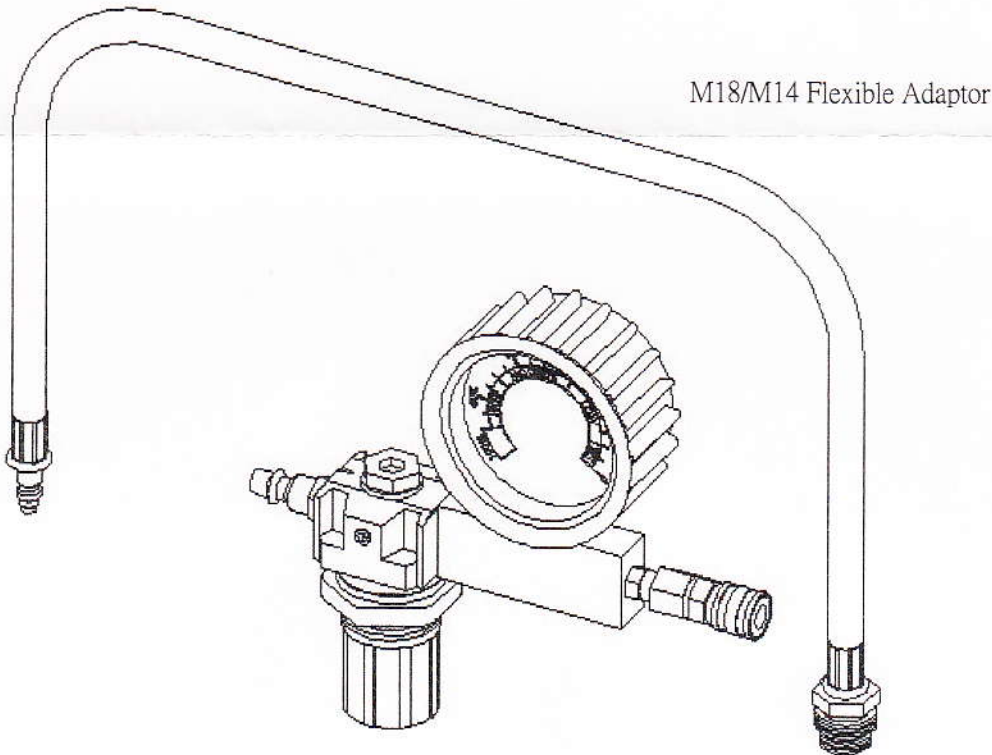
Do a cylinder leakage test to determine source of problem.

Lower relative compression readings.One or more cylinders lower



Do a cylinder leakage test to determine source of problem.

4. PART AVAILABILITY

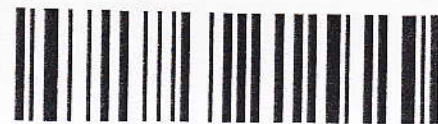


Gauge and Regulator Assembly- only available as part of Tester

NOTE: It is policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this equipment.

WARRANTY: Guarantee is 12 months from purchase date,proof of which will be required for any claim.



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Art. 5117 – TESTER PER PERDITE DI PRESSIONE NEL CILINDRO
– TESTEUR POUR LA PERTE DE PRESSION DANS LE CYLINDRE
– CYLINDER LEAKAGE TESTER

MANUALE ISTRUZIONI - MODE D'EMPLOI - USER INSTRUCTIONS

RACCOMANDIAMO DI LEGGERE IL MANUALE DI ISTRUZIONI DEL MOTOCICLO E/O CHIEDERE CHIARIMENTI AL PROPRIO MECCANICO DI FIDUCIA

1. INTRODUZIONE E APPLICAZIONE

Questo tester è utile per una rapida ricerca di difetti o perdite nelle valvole, nei pistoni, nelle fasce elastiche e nella testa delle guarnizioni. Il manometro indica la perdita sia in percentuale che in psi. La costante immissione di aria compressa permette anche di individuare con precisione i difetti attraverso l'ascolto della perdita.

La confezione contiene: un manometro, un tubo flessibile con attacco M14xM18 e due connettori M12 e M10

2. AVVERTENZE

Mantenere l'attrezzo pulito e in buono stato per una migliore e sicura prestazione. **NON UTILIZZARE** se danneggiato. Assicurarsi che il veicolo sia ben stabile.

ATTENZIONE: Mettere il motore in folle (o 'park', se cambio automatico) e fare attenzione perché è necessario farlo girare per l'utilizzo di questo attrezzo.

ATTENZIONE: girare completamente la manopola sotto al manometro in senso antiorario prima di collegare l'aria compressa. Un eccesso di pressione può danneggiare il misuratore e invalidarne la garanzia.

3. ISTRUZIONI PER L'USO

3.1 CONNETTERE IL SISTEMA

1. Riscaldare il motore fino a quando non raggiunge la temperatura di regime.
2. Rimuovere le candele, l'astina dell'olio, il tappo del radiatore, il filtro dell'aria dal carburatore, o, con motore a iniezione, rimuovere il tubo del depressore.
3. Posizionare il pistone n.1 al punto morto superiore con entrambe le valvole chiuse. Nota: tenere sempre il motore in folle. Per posizionare correttamente il pistone utilizzare un calibro di posizionamento e rimuovere il coperchio del bilanciante della camma per controllare che le valvole siano chiuse.
4. Ruotare la manopola sotto al manometro completamente in senso antiorario. Collegare l'aria compressa al regolatore. Ruotare la manopola di regolazione in senso orario fino a quando sul manometro si legge 100 psi (perdita uguale a 0%).
5. Avvitare il connettore nel foro della candela e collegarlo al tester. La perdita verrà visualizzata sul manometro in psi mancanti o in percentuale (es: se si legge 90 psi la perdita sarà pari al 10%).
6. Provare ad uno ad uno gli altri cilindri e confrontare le misurazioni per determinare quale cilindro è difettoso. Se necessario, ricontrollare il cilindro che mostra maggiori perdite. Controllare i punti di ascolto (vedi punto 3.2) per determinare la causa della perdita.

3.2 UBICAZIONE DEI PUNTI DI ASCOLTO

- | | |
|----------------------------------|---|
| 1. Tubetto dell'astina dell'olio | fasce elastiche o pareti del cilindro danneggiati o usurati. |
| 2. Radiatore | pareti del cilindro incrinati o perdite nella guarnizione di testa. |
| 3. Canna del cilindro | perdite nella guarnizione di testa. |
| 4. Marmitta | perdite nella valvola di scarico. |
| 5. Depressore | perdite nella valvola di carico. |
| 6. Corpo sfarfallato | perdite della valvola di aspirazione |

3.3 SUGGERIMENTI

1. Se la perdita è il 100% o comunque molto elevata il cilindro potrebbe non essere al punto morto superiore. Verificare che le valvole siano chiuse. Cercare sempre di posizionare i pistoni al punto morto superiore per ottenere risultati uniformi.
2. Se gli anelli sono rotti o le pareti del cilindro sono rovinati si risconterà una eccessiva perdita di pressione.
3. E' importante che tutti i cilindri presentino letture uniformi (come in un test di compressione). Differenze superiori al 15% indicano un'eccessiva perdita.
4. Motori di grandi dimensioni tendono ad avere perdite maggiori.

5. Se si riscontra una eccessiva perdita in un veicolo a basso chilometraggio, gli anelli dei pistoni possono essere bloccati o girati. Trattare il motore con olio di qualità e riprovare prima di smontare i pistoni per la sostituzione.
6. Più è basso il suono della perdita, maggiore è la perdita.
7. Aiutarsi nell'ascolto con un lungo tubo pulito o con uno stetoscopio per meccanici rimuovendogli la sonda.
8. Quando si effettuano ripetute prove a 100 cilindri identici, le variazioni di posizione del pistone e la temperatura del motore possono causare diversità nelle letture addirittura fino al 10%.
9. Se un motore ha più difetti (ad esempio, anelli consumati e valvole bruciate), il tester indicherà soltanto il difetto più grave.

Nota: c'è sempre qualche perdita attraverso gli anelli dei pistoni. Come risultato si sentirà sempre qualche perdita attraverso il tubetto dell'astina dell'olio.

NOUS RECOMMANDONS DE LIRE LE "MODE D'EMPLOI" DE LA MOTO ET/OU DE DEMANDER DES CLARIFICATIONS À VOTRE MÉCANICIEN DE CONFIANCE

1. INTRODUCTION ET APPLICATION

Ce testeur est utile pour une recherche rapide des défauts ou des pertes dans les soupapes, dans les pistons, dans les segments de piston et dans les têtes des joints. La jauge indique la perte en pourcentage aussi qu'en psi. La constante injection d'air comprimé permis également d'identifier avec précision les défauts à l'écoute de la perte.

L'ensemble comprend : un manomètre, un tuyau avec attaque M14xM18 et deux connecteurs M12 et M10

2. AVERTISSEMENT

Maintenir l'outil propres et en bon état pour une meilleur et plus sûre performance. NE PAS UTILISER si endommagé. Assurez-vous que le véhicule soit très stable.

AVERTISSEMENT: Mettre le moteur au point mort (ou "parc", si la transmission est automatique) et faire attention parce qu'il a besoin de le tourner pour l'utilisation de cet outil.

AVERTISSEMENT: tourner complètement dans le sens contraire des aiguilles d'une montre le bouton au dessous du manomètre avant de connecter l'air comprimé. Un excès de pression peut endommager le compteur et rendre nul la garantie.

3. INSTRUCTIONS

3.1 CONNETTERE LE SYSTEME

1. Chauffer le moteur jusqu'à ce qu'il atteigne la température de régime
2. Enlever les bougies, la tige de l'huile, le bouchon du radiateur, le filtre à air du carburateur, ou, avec un moteur à injection, enlever le tube de l'abaisseur.
3. Placer le piston no.1 au point mort haut, avec les deux soupapes fermées. Note: maintenir le moteur au point mort. Pour placer correctement le piston utiliser un calibre de positionnement et retirer le couvercle du bras des cames pour vérifier que les soupapes sont fermées.
4. Tourner complètement dans le sens contraire des aiguilles d'une montre le bouton au dessous du manomètre. Connecter l'air comprimé. Tournez le bouton vers la droite jusqu'à sur la jauge se lit 100 psi (perte égal zéro).
5. Vissez le connecteur dans le trou de la bougie et le connecter aux testeurs. La perte sera visualisée sur la jauge en psi manquant ou en pourcentage (ex : si on lit 90 psi la perte sera du 10%).
6. Essayer un par un les autres cylindres et comparer les mesures pour déterminer quel est le cylindre défectueux. Si nécessaire, revérifier le cylindre qui montre la perte plus importante. Contrôler les points d'écoute (voir 3.2) afin de déterminer la cause de la perte.

3.2 LOCALISATION DE POINTS D'ECOUTE

- | | |
|-------------------------------|---|
| 1. Tube de la tige de l'huile | segments ou parois du cylindre endommagée ou usée |
| 2. Radiateur | parois du cylindre fissuré ou pertes dans le joint de tête. |
| 3. Chemise du cylindre | perles dans le joint de tête. |
| 4. Pot d'échappement | perles dans la soupape de décharge |
| 5. Abaisseur | perles dans la soupape de charge |
| 6. Corps papillonné | perle dans la soupape d'aspiration |

3.3 SUGGESTIONS

1. Si la perte est de 100% ou très haut le cylindre peut n'être pas au point mort haut. Vérifier que les soupapes sont fermées. Essayer toujours de placer les pistons au point mort haut, pour obtenir résultats uniformes.
2. Si les anneaux sont brisés ou les parois du cylindre sont ruiné on y aura une perte excessive de pression.
3. Il est important que tous les cylindres présentent lectures uniformes (comme dans un test de compression). Les différences de plus de 15% indiquent une perte excessive.
4. Moteurs les plus grandes ont plus de pertes.
5. S'il ya une perte excessive d'un véhicule à faible kilométrage, les segments de piston peut être bloqués ou tournés. Traiter le moteur avec huile de qualité et répéter le test avant de démonter les pistons pour l'échange.
6. Plus faible est le son de la perte, plus grande est la perte.
7. S'aider dans l'écoute avec une longue tube propres ou avec un stéthoscope pour mécaniques ayant enlevé la sonde.
8. On effectuant de tests répétés à 100 cylindres identiques, les changements de la position du piston et la température du moteur peuvent causer des différences dans les lectures, même jusqu'à 10%.

9. Si un moteur a plus de défauts (par exemple, des anneaux consommés et des soupapes brûlés), l'examineur indiquera seulement le défaut le plus grand.

Note: il y a toujours quelque perte dans les anneaux de pistons. De ce fait vous sentirez toujours une perte à travers le tube de la tige de l'huile.

WE RECOMMEND TO READ THE USER INSTRUCTIONS OF THE MOTORCYCLE AND/OR ASK CLARIFICATIONS TO YOUR CONFIDENT MECHANIC

1. INTRODUCTION & APPLICATION

This tool is useful to test for a quickly diagnoses of failed or leaking valves, pistons, rings and head gaskets. A large gauge indicates percentage of leaking rather than psi. The constant supply of compressed air also allows faults to be pinpointed by listening for the source of leakage.

The packaging includes: a gauge, an M14xM18 flexible adaptor and two connections M12 and M10.

2. SAFETY INSTRUCTIONS

Maintain the equipment in good and clean condition for best and safest performance. DO NOT use if damaged.

Ensure that the vehicle to be worked on is adequately supported.

WARNING: Select neutral (or 'park' if automatic transmission) and keep hands clear of the engine as engine rotation may occur when using this tool.

WARNING: Turn regulator knob below the gauge fully anti-clockwise before connecting to compressed air. Excess pressure will damage the gauge and will invalidate the warranty.

3. USER INSTRUCTIONS

3.1 TO CONNECT THE SYSTEM

1. Run the engine until it reaches operating temperature
2. Remove spark plugs, oil dipstick, radiator cap, air filter from carburettor or, if fuel injected, remove air liter or hose from the throttle body.
3. Position No.1 piston at TDC on the compression stroke so that both inlet exhaust valves are closed. Note: always rotate the engine in the normal operating direction. To position the piston correctly use a piston position gauge and remove the can/rocker cover so that closed valves can be confirmed
4. Turn the regulator knob fully anti-clockwise. Connect the compressed air to the regulator. Turn the regulator knob clockwise until the gauge reads 100 psi (loss is zero).
5. Screw the cylinder hose into spark plug hole and then connect to the tester. The amount of leakage will show on the gauge as missing psi or percentage loss (ex: if you read 90 psi the loss is 10%).
6. Test the other cylinders and compare the leakage figures to determine which cylinder is faulty.
7. If necessary, retest the cylinder showing high leakage. Check the listening points (see 3.2) to determine the cause of the leakage.

3.2 LOCATION OF LISTENING POINT

- | | |
|--------------------------|---|
| 1. Oil Dipstick Tube | for leakage from damaged or worn rings and/or cylinder wall |
| 2. Radiator Filler | for cylinder wall cracks or head gasket leakage |
| 3. Adjacent Cylinder | for head gasket leakage |
| 4. Tail Pipe | for exhaust valve leakage |
| 5. Carburetion Air inlet | for Rake valve leakage |
| 6. Fuel in Throttle Body | for intake valve leakage |

3.3 HELPFUL SUGGESTION

1. If 100% or excess leakage shows on gauge the cylinder may not be at TDC on the compression stroke. Check to ensure that the valves are closed. Always try to position piston at TDC for uniform results
2. If rings are broken or cylinder wall are scored excessive leakage will be identified
3. It is important that all cylinders have reasonably uniform readings (as in compression testing). Differences in excess of 15% indicate excessive leakage.
4. Large engines tend to leak more than small engines.
5. If leak is excessive on a vehicle with low mileage, piston rings may be stuck or turned. Treat engine with quality tune-up oil for a period of time and then re-test before disassembling.
6. Lower is the pitch of leakage sound, greater is the leak.
7. Assist with listening using a length of clean hose, or a mechanic's stethoscope with the probe removed.
8. When making repeat tests on 100 same cylinder, variations in the piston position and engine temperature can cause gauge readings to differ by up to 10%
9. If an engine has multiple faults (such as worm rings and burned valves), the tester may indicate only the most serious fault

Note: there is always some leakage past the piston rings. As a result you will always hear some leakage when listening to the dipstick tube.