

CORE ACCEPTANCE CRITERIA 旧件验收标准

Cylinder Heads

缸盖

You will receive:
你将得到:

Full Core Refund

- ◆ Casting is not visibly cracked, broken, or have severe damage (minor damage such as small dents, light scratches, pitting, and minor gouges are acceptable). (See exception under Cracked Full Core Refund)
- ◆ Casting is not welded by source other than Caterpillar®.
- ◆ Fully assembled and complete (add charges will apply for missing or disassembled parts).
- ◆ No excessive rust or corrosion on interior or machined surfaces.
- ◆ Acceptable Caterpillar part number.

全部旧件退款

- ◆ 铸件没有可看见的裂纹、破碎或有严重损坏（小的凹痕、轻微的划痕、穴蚀和微小的擦伤等轻微的损坏是可接受的）。（参见“裂纹全部旧件退款”项下的例外情况）
- ◆ 铸件未经非卡特彼勒® 的其它方焊接。
- ◆ 完全组装而且完整（附加费用将适用于缺失的或解体的零件）。
- ◆ 内表面或机加工表面上无过度生锈或腐蚀。
- ◆ 可接受的卡特彼勒零件号。

Damaged Core Refund

- ◆ Casting is visibly cracked, has severe damage or metal stamp marks in machined surfaces. (See exception under Cracked Full Core Refund)
- ◆ Casting is welded by source other than Caterpillar.
- ◆ Fully assembled and complete (add charges will apply for missing or disassembled parts).
- ◆ Excessive rust or corrosion on interior and/or machined surfaces.
- ◆ Non-Genuine Caterpillar cylinder head that is interchangeable with a Caterpillar Upgrade-to-New part number.

受损旧件退款

- ◆ 铸件有可看见的裂纹，严重的损坏或机加工表面上的金属冲压标记。（参见“裂纹全部旧件退款”项下的例外情况）
- ◆ 铸件由非卡特彼勒的其它方焊接。
- ◆ 完全组装而且完整（附加费用将适用于缺失的或解体的零件）。
- ◆ 内表面和/或机加工表面上有过度生锈或腐蚀。
- ◆ 可与卡特彼勒升级到新部件零件号互换的非纯正卡特彼勒缸盖。

Cylinder Heads / 缸盖

CORE ACCEPTANCE CRITERIA (continued) / 旧件验收标准（接上页）

No Core Refund	<ul style="list-style-type: none">◆ Broken casting.◆ Not a genuine Caterpillar part or not an acceptable part number.◆ Any evidence of unsuccessful attempts to salvage, including milling or grinding.◆ Fire damage.
无旧件退款	<ul style="list-style-type: none">◆ 铸件破损。◆ 不是纯正的卡特彼勒零件或不是可接受的零件号。◆ 任何试图修补但不成功的迹象，包括铣削或研磨。◆ 火损。

INSPECTION TIPS / 检查提示

Dealers should refer to REMAN Policies and Core Management (SCLD0122), Core Management Systems and Operations procedures (SCLD0040), and Shipping Instructions (SCLD0039) in the “Operations and Core Management Tab”, and to Core Acceptance Guide Introduction (SCLD0013) in the “Core Acceptance Guidelines Tab” for additional information applicable to all cores. 有关适用于全部旧件的额外信息，代理商应参考《再制造政策和旧件管理》(SCLD0122)，《旧件管理系统和操作规程》(SCLD0040)，“操作和旧件管理标签”中的《运输规程》(SCLD0039)以及“旧件验收指导原则标签”中的《旧件验收指导说明》(SCLD0013)。

Visual Inspection 目视检查

Only a visual inspection of the cylinder head is needed. For larger heads, the use of a hoist or other lifting device is suggested to inspect all surfaces of the head. You are not required to disassemble, dye check, or magnaflux cylinder head cores. It is necessary to remove excess oil, dirt, carbon, and gasket material by scraper or emery cloth to properly assess the condition of the core. Milling or grinding will be viewed as an attempt to salvage and result in No Core Refund. The use of a mechanical device to aid in cleaning or removing gaskets is not recommended.

只需要对缸盖进行目视检查。对于较大的缸盖，检查缸盖的所有表面时，建议使用起重机或其它举升设

备。你不需要解体、着色检查探伤或用磁力探伤法检查缸盖旧件。必须使用刮刀或砂布去除多余的机油、灰尘、积碳和缸垫材料，以便正确评估旧件的状况。铣削或研磨将被视为试图进行修补，其结果将是“无旧件退款”。不建议使用机械设备辅助清除或去除缸垫。

Cracked 裂纹

Full Core Refund 全部旧件退款

A head with an internal crack that is not visible is eligible for Full Core Refund if it meets all other Full Core Refund criteria. Mark the head “Internal Crack” to assure it is not reused. Mark the CCR “Nonvisible internal crack. Full Core Refund requested.”

如果符合所有其它“全部旧件退款”标准，带有不能看见的内部裂纹的缸盖符合“全部旧件退款”。在缸盖上标记“内部裂纹”，以确保它不会被再次使用。在 CCR 上标记“不可看见的内部裂纹。要求全部旧件退款。”

A head with cracks in the combustion face flycut area (machined depression between intake valves) is acceptable for Full Core Refund (see Figure 1) if it meets all other Full Core Refund criteria.

如果符合所有其它“全部旧件退款”标准，在燃烧面高速切削区域有裂纹的缸盖（进气门之间的机加工凹陷处）可接受为“全部旧件退款”（见图 1）。

Cylinder Heads / 缸盖

INSPECTION TIPS (continued) / 检查提示（接上页）

The following cylinder heads have flycut areas:
下列缸盖有高速切削区域:

3176、C-10、C11、C-12、C13、3406E、C-15、
C15、C-16

Damaged Core Refund
受损旧件退款

Cracked cylinder heads are acceptable for Damaged Core Refund. Cracks are often difficult to locate. For best results, scrape away excess oil, dirt, and carbon. Shine a flashlight at an angle rather than straight at the head. Cylinder heads typically crack in the fire ring area on the bottom deck (See Figure 2) or on the top deck (See Figure 3). One good indicator that a top deck crack may be present is a buildup of sludge (dirt and oil) near the crack (See Figure 4). You can usually find these cracks by carefully inspecting the top decks between adapter holes and freeze (core) plugs. The following are areas to check carefully:

有裂纹的缸盖可接受为“受损旧件退款”。常常难以找到裂纹位置。要获得最好的检查结果，刮去多余的机油、灰尘和积碳。以一定角度用手电筒照亮缸盖，而不要直着照射。缸盖一般在底部平台（见

图 2）或顶部平台（见图 3）上的燃烧环区域出现裂纹。顶部平台上可能出现裂纹的一个很明显的标志是在靠近裂纹的地方有油泥（尘土和机油）堆积（见图 4）。你通常可以通过仔细检查接头孔和防冻（中心）塞之间的顶部平台来发现这些裂纹。以下是要仔细检查的区域：

- 3406 top deck cracks
• 3406 顶部平台裂纹
- 3208 cracks from the intake valve to the nozzle hole
• 3208 从进气门到喷嘴孔之间的裂纹
- 3304/3306 cracks from the precombustion chamber thread
• 3304/3306 预燃室螺纹的裂纹
- 3600 cracks around the valve seat inserts
• 3600 气门座镶圈周围的裂纹
- 3500/3600 internal cracks visible through the intake port
• 3500/3600 可通过进气口看见的内部裂纹

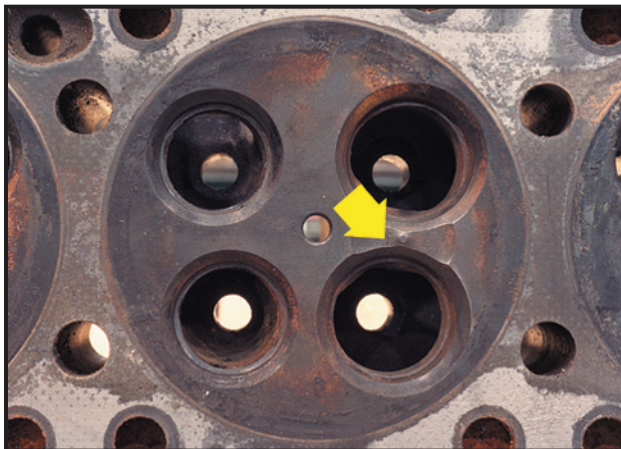


Figure 1
图 1

Full Core Refund
全部旧件退款

Cracks in the combustion face flycut area between the intake valves do not affect core refund
进气门之间的燃烧面高速切削区域中的裂纹不影响旧件退款



Figure 2
图 2

Damaged Core Refund
受损旧件退款

Crack on the bottom deck
底部平台上的裂纹

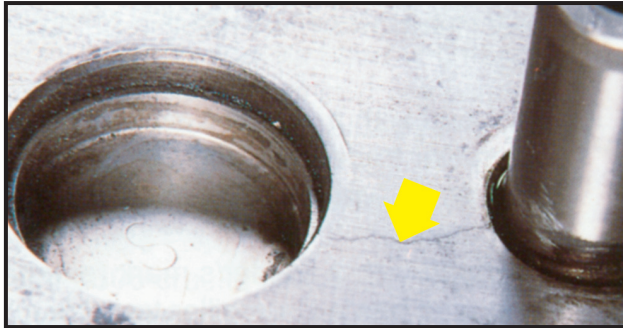


Figure 3
图 3

Damaged Core Refund
受损旧件退款

Crack on the top deck
顶部平台上的裂纹

Damaged
损坏

Full Core Refund
全部旧件退款

Minor damage such as small dents, light scratches, and minor gouges to the bottom deck of the head that can be removed by milling are acceptable for Full Core Refund. Care must be used in handling and shipping; heads damaged in transit can be downgraded. Exterior marks, scratches, and gouges to the head (non top or bottom deck) not affecting operation are acceptable (See Figures 5, 6, 7, and 8).

可以通过铣削去除的，缸盖底部平台上的小的凹痕、轻微的划痕和微小的擦伤等轻微的损坏可接受为“全部旧件退款”。在搬运和运输过程中必须小心；在运输过程中损坏的缸盖评估时可能被降级。可接受不影响运转的缸盖上的外部标记、划痕和擦伤（不是顶部或底部平台）（见图 5、6、7 和 8）。

Pitting which occurs through normal operation will be acceptable for Full Core Refund. Pitting is defined as the flaking of metal caused by the presence of moisture during operation. Pitting usually occurs in the fire ring area of the bottom deck or around exhaust ports (See Figure 9).

在正常运转过程中产生的穴蚀可接受为“全部旧件退款”。穴蚀的定义为在运转中因潮湿而造成的金属材料剥落。穴蚀通常出现在底部平台上的燃烧环区域或排气口周围（见图 9）。

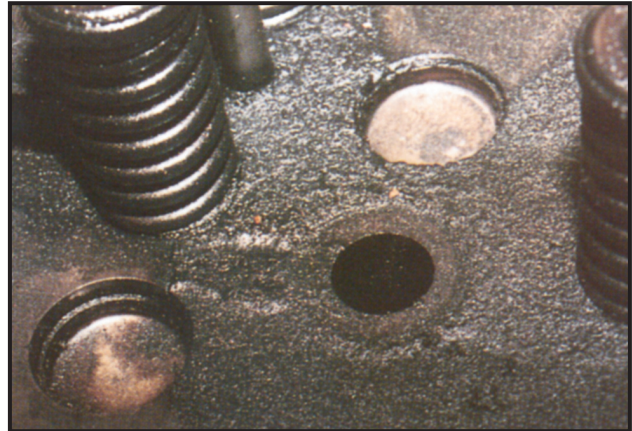


Figure 4
图 4

Damaged Core Refund
受损旧件退款

Top deck crack
顶部平台裂纹

Stripped threads, minor cosmetic damage around bolt holes, broken bolts, and broken studs are acceptable (See Figure 10). Please do not break studs for packaging purposes if they cannot be removed.

剥离的螺纹、螺栓孔周围微小的表面损伤、折断的螺栓以及折断的螺柱是可接受的（见图 10）。如果不能拆下螺柱，请不要出于包装目的而将其折断。

Damaged Core Refund
受损旧件退款

A severely damaged cylinder head is acceptable for Damaged Core Refund. Severe damage is usually caused by debris from a major engine failure such as dropped valves, damaged pistons, or injector tips (See Figures 11 to 14). No add charge will be made for valves damaged due to a component failure within a cylinder. Metal stamps and/or punch marks on the bottom deck will receive a Damaged Core Refund (See Figure 15).

严重损坏的缸盖可接受为“受损旧件退款”。严重损坏通常是由主要发动机故障产生的碎片造成的，比如掉落的气门、损坏的活塞或喷油器尖（见图 11 至 14）。对于因汽缸内的部件故障而损坏的气门，不会收取附加费用。在底部平台上的金属印记和/或冲压痕迹将获得“受损旧件退款”（见图 15）。



Figure 5
图 5

Full Core Refund
全部旧件退款

Small dents
小凹痕

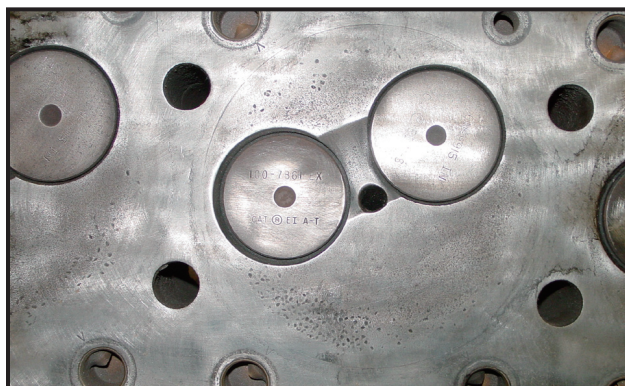


Figure 6
图 6

Full Core Refund
全部旧件退款

Minor damage — multiple small dents
轻微损坏 — 多个小凹痕



Figure 7
图 7

Full Core Refund
全部旧件退款

Minor damage — single dent
轻微损坏 — 单个凹痕



Figure 8
图 8

Full Core Refund
全部旧件退款

Minor damage — single light scratch
轻微损坏 — 单个轻微划痕

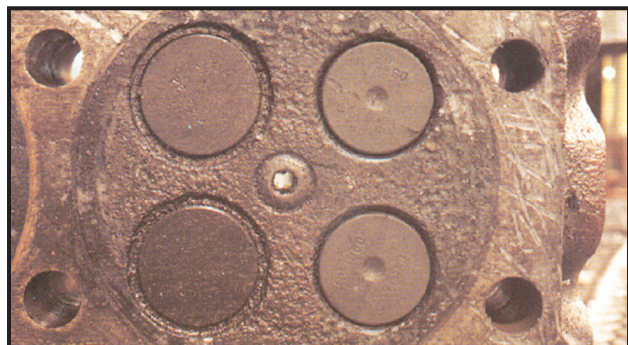


Figure 9
图 9

Pitting
穴蚀

Full Core Refund
全部旧件退款

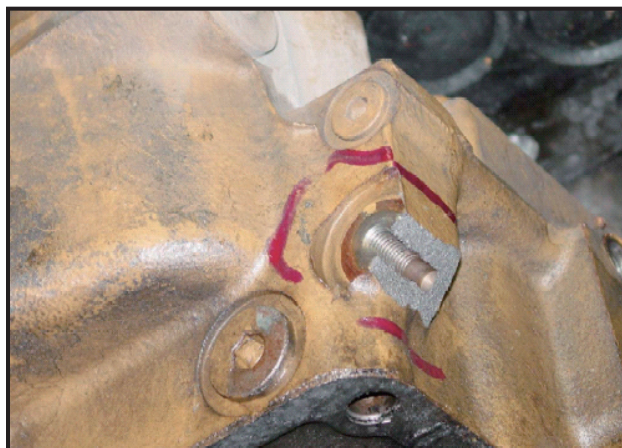


Figure 10
图 10

Minor cosmetic damage to or around bolt holes
螺栓孔或孔周围微小的表面损伤

Full Core Refund
全部旧件退款



Figure 11
图 11

Severe damage
严重损坏

Damaged Core Refund
受损旧件退款



Figure 12
图 12

Multiple punch marks around valve seats
气门座周围的多个冲压痕迹

Damaged Core Refund
受损旧件退款



缸盖

检查提示 (接上页)



Figure 13
图 13

Damaged Core Refund
受损旧件退款

Deep gouge in head
缸盖上深的擦伤

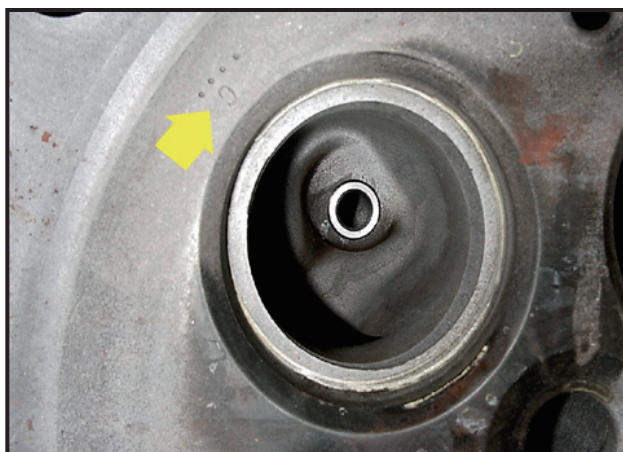


Figure 14
图 14

Damaged Core Refund
受损旧件退款

Deep gouges in head
缸盖上几处深的擦伤

Cylinder Heads / 缸盖

INSPECTION TIPS (continued) / 检查提示（接上页）

Welded 焊接

Full Core Refund 全部旧件退款

Any Caterpillar Remanufactured Cylinder Head that has been welded by Caterpillar will receive Full Core Refund if it meets all other Full Core Refund criteria.

如果符合所有其它“全部旧件退款”标准，任何由卡特彼勒焊接的卡特彼勒再制造缸盖将获得“全部旧件退款”。

Minor cosmetic damage is acceptable for Full Core Refund. Cosmetic welding is often used on the sides of castings to hide minor dents and scratches or to repair bolt hole bosses.

微小的表面损伤可接受为“全部旧件退款”。表面焊接常常用于铸件的侧面，以遮盖微小的凹痕和划痕，或修理螺栓孔凸台。

Damaged Core Refund 受损旧件退款

Cylinder heads which will result in Damaged Core Refund:

将获得“受损旧件退款”的缸盖：

- A head with a welder's mark (even if the head also has a Caterpillar trademark) (See Figure 16).
- 带有焊接方标记的缸盖（即使缸盖还有一个卡特彼勒商标）（见图 16）。
- A head with a visible weld and no Caterpillar trademark. Figures 17, 18 (A), 19, and 20 show some typical non-Cat welds.
- 带有可看见的焊缝但没有卡特彼勒商标的缸盖图 17、18 (A)、19 和 20 中所示为几个典型的非卡特彼勒焊接。
- Welding in the fire ring area is never cosmetic and will result in Damaged Core Refund if welded by a source other than Caterpillar.
- 在燃烧环区域的焊接绝不是表面焊接，而且如果由非卡特彼勒的其它方进行焊接，其结果是“受损旧件退款”。

Typical welder's marks are shown below:

如下所示是典型的焊接方标记：

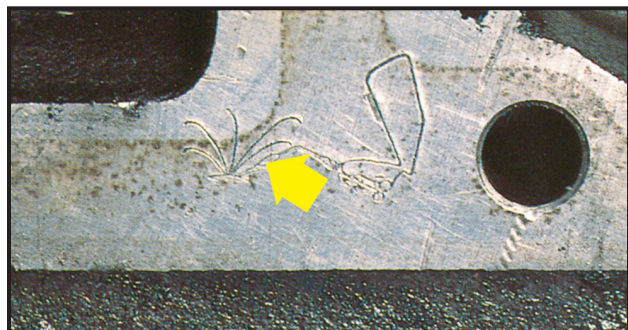


Figure 16
图 16

Damaged Core Refund
受损旧件退款

Welder's mark
焊接方标记

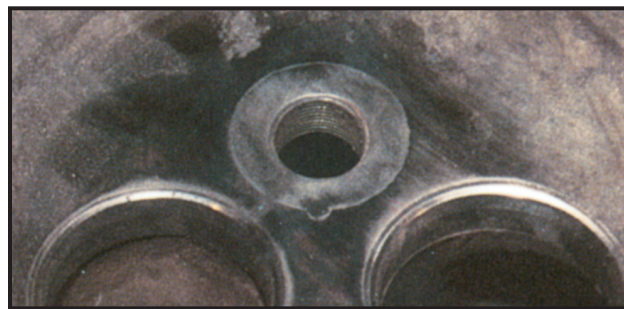


Figure 17
图 17

Damaged Core Refund
受损旧件退款

A plug that is not cast-iron has been welded into this head to replace a cracked area around the adapter hole.

Caterpillar does not use this process.

一个不是铸铁的塞子被焊入此缸盖中，来代替接头孔周围的有裂纹区域。卡特彼勒不使用这种方法。

Cylinder Heads / 缸盖

INSPECTION TIPS (continued) / 检查提示（接上页）

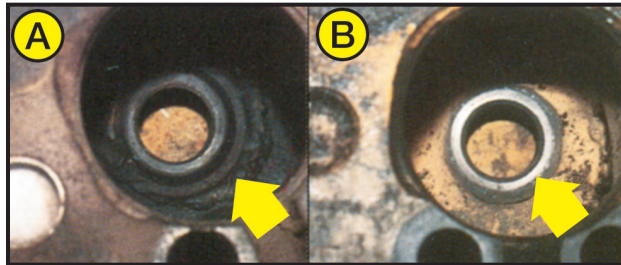


Figure 18
图 18

Damaged Core Refund
受损旧件退款

Photo A - This view from the top of the head with the nozzle adapter (pre-chamber) removed shows a rough, jagged weld where a bottom deck crack has been repaired.

照片 A — 这一视角是从已拆下喷嘴接头（预燃室）的缸盖顶部看，所示是在修补底部平台裂纹的地方有一条粗糙而且参差不齐的焊缝。

Photo B - The view shows the same area in an un-welded Cat casting. The Cat casting is smooth. Normally, nozzle adapters (pre-chambers) are not removed during core inspection, but if the adapters fall out during inspection, the adapter hole area will be checked.

照片 B — 这一视角所示是在一个未焊接的卡特彼勒铸件。卡特彼勒铸件很平滑。通常，在检查旧件过程中不拆下喷嘴接头（预燃室），但如果接头在检查过程中掉落，将检查接头孔区域。

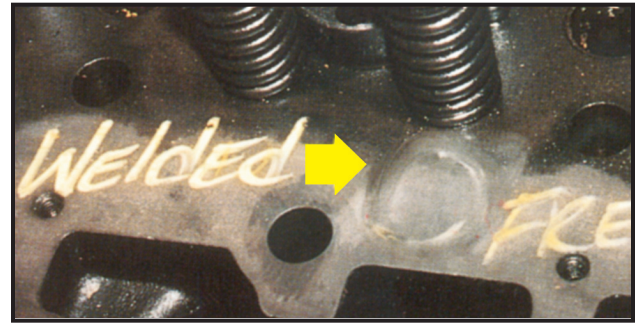


Figure 19
图 19

Damaged Core Refund
受损旧件退款

This head probably had a top deck crack and was repaired by welding the freeze (core) plug hole shut. Caterpillar does not weld top deck cracks nor does Caterpillar weld over a freeze (core) plug hole.

此缸盖可能有一条顶部平台裂纹，并通过将防冻（中心）塞孔焊接封闭而进行了修补。卡特彼勒不会焊接顶部平台裂纹，卡特彼勒也不会焊接防冻（中心）塞孔。

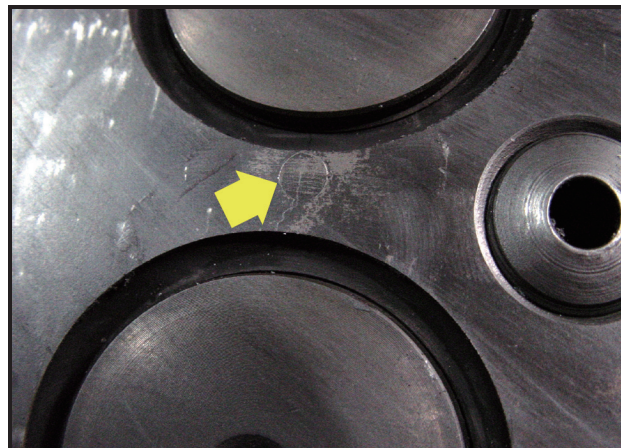


Figure 20
图 20

Damaged Core Refund
受损旧件退款

Previously plug welded head
以前经过塞焊的缸盖

Cylinder Heads / 缸盖

INSPECTION TIPS (continued) / 检查提示（接上页）

Fully Assembled and Complete

完全组装而且完整

Cores must be returned complete. Missing or disassembled components are subject to add charges equal to the new component price at the time of Caterpillar's inspection.

旧件必须完整退回。缺失或解体的部件将被收取附加费用，此费用等于卡特彼勒进行检查时的新部件价格。

The following parts should be included with your cylinder head group:

下列零件应包括在缸盖组件中：

- Head casting
- 缸盖铸件
- Valves
- 气门
- Springs
- 弹簧
- Guides
- 导管
- Adapters (when applicable)
- 接头（如果适用）

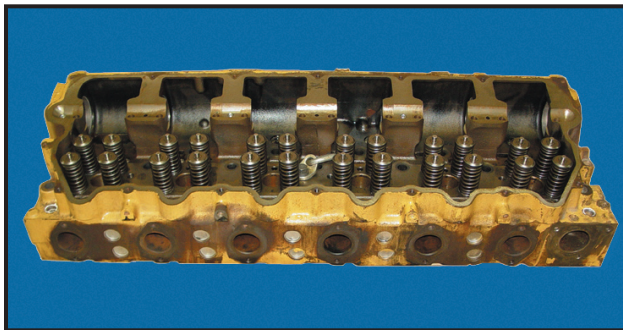


Figure 21
图 21

Complete cylinder head group
完整的缸盖组件

Rust or Corrosion

生锈或腐蚀

If rust can be wiped away with an emery cloth, the core will be accepted for Full Core Refund. Excessive corrosion or rust on machined surface areas or internal parts, most often caused by incorrect storage, will result in Damaged Core Refund.

如果可以用砂布擦除锈迹，可将旧件接受为“全部旧件退款”。机加工表面区域上的或内部零件上的过度腐蚀或生锈最可能是因不正确的存放造成的，其结果是“受损旧件退款”。

Non-Genuine Caterpillar Cylinder Head

非纯正卡特彼勒缸盖

Look for competitive manufacturers' markings, such as:

查找竞争制造商的标记，比如：



If you find this symbol or other manufacturers' markings, the core is only acceptable in exchange for an Upgrade-to-New head casting. Cracked, uncracked or welded heads originally manufactured by sources other than Caterpillar will be accepted for Damaged Core Refund only in exchange for an Upgrade-to-New head casting. Other indicators of not being a Caterpillar head can be found in the casting itself. Figure 23 shows the parting line and “buttons” on a Cat casting. Compare this to the square “pads” on the heads that are not Caterpillar, Figure 22. Some of these pads appear to be the same size as the markings used by Ghinassi, even though the Ghinassi symbol is not evident. The large, raised block of iron at the right of the “pads” along the parting line is also a clear alert that the head is not a Caterpillar head.

如果你发现此符号或其它制造商的标记，旧件仅能接受为交换升级到新部件的缸盖铸件。原来由非卡特彼勒的其它方制造的有裂纹、无裂纹或焊接缸盖仅接受为“受损旧件退款”，用于交换升级到新部件的缸盖铸件。可以在铸件本身上发现一些说明这不是卡特彼勒缸盖的其它标志。图 23 中所示为卡特彼勒铸件上的分型线和“按钮”。将此图与图 22 中非卡特彼勒的缸盖上的方形“凸台”相比较。即使 Ghinassi 符号并不明显，这些凸台中有一些看起来与 Ghinassi 采用的标记相同。沿着分型线的右侧“凸台”上的大突起铁块也清楚地表明了此缸盖不是卡特彼勒缸盖。

Cylinder Heads / 缸盖

INSPECTION TIPS (continued) / 检查提示 (接上页)

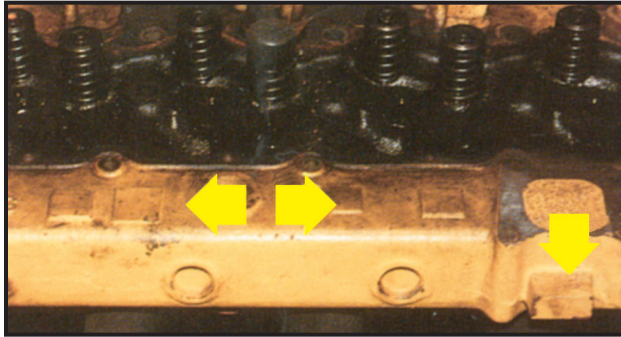


Figure 22
图 22

Competitors' head
竞争对手缸盖

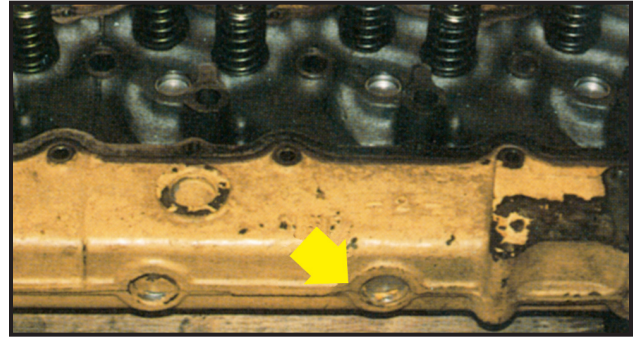


Figure 23
图 23

Caterpillar head — parting line
卡特彼勒缸盖 — 分型线

Broken Casting 破损的铸件

Cylinder heads with a piece of the casting missing which affects the integrity or operation of the head will result in No Core Refund.

如果缸盖缺失一块铸件，并影响了缸盖的完整或工作性能，将会造成“无旧件退款”。

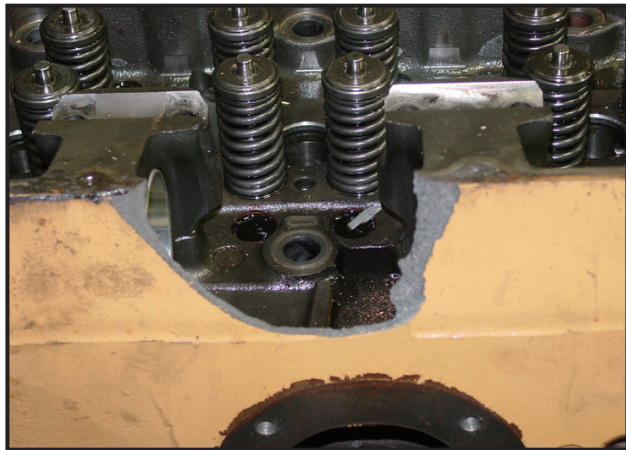


Figure 24
图 24

No Core Refund
无旧件退款

Broken casting
破损的铸件

Attempt to Salvage 试图修补

Any evidence of an attempt to salvage will result in No Core Refund. Evidence of attempt to salvage will include, but not limited to, milling, grinding, or subjected to some type of machining process; however, was never put back into service. Core should be in “as removed” condition.

任何试图修补的迹象将造成“无旧件退款”。试图修补的迹象将包括但不限于：铣削、研磨或某种机加工方法；但是，未能再次投入使用。旧件必须处于“拆卸时的原状”的状态。

Fire Damage 火损

No Core Refund 无旧件退款

A head will be given No Core Refund if it was subjected to a major engine fire.

如果缸盖经受过一次发动机严重失火，缸盖将适用“无旧件退款”。

Direct Purchase Criteria / 直接购买标准

Please refer to the Core Management Information System (CMIS2) Parts Information Application for all Direct Purchase pricing information. Only the parts that have Direct Purchase prices with a current end date are included in the program. Parts with non-current end dates are not included in the program.

有关所有直接购买定价信息，请参考旧件管理信息系统 (CMIS2) 零件信息应用。本程序中只包括那些具有直接购买价格并带有当前结束日期的零件。带有非当前结束日期的零件没有包括在本程序中。

Part numbers that only have a "FULL" Direct Purchase price must meet the "FULL Core Refund" exchange core acceptance criteria to receive direct purchase value. Part numbers that have both a "FULL" and "PARTIAL" Direct Purchase price must meet the applicable "FULL Core Refund" or "Damage Core Refund" exchange core acceptance criteria to receive direct purchase value.

只有一个“全额”直接购买价格的零件号必须符合“全部旧件退款”交换旧件验收标准，才能获得直接购买价值。有“全额”和“部分”直接购买价格的零件号必须符合相应的“全部旧件退款”或“受损旧件退款”交换旧件验收标准，才能获得直接购买价值。

Add charges will apply as appropriate based on the normal exchange core acceptance criteria.

何时适用附加费用将根据正常交换旧件验收标准。