

CITY OF DETROIT
OFFICE OF INSPECTOR GENERAL

Forensic Audit of the Department of Transportation
Disposition of Scrap Parts



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INSPECTOR GENERAL

<u>Table of Contents</u>	<u>Page</u>
I. OBJECTIVE, SCOPE AND METHODOLOGY	1
A. Objective	1
B. Scope	1
C. Methodology	1
D. Standards	1
E. Authority and Role	2
II. EXECUTIVE SUMMARY	2
A. Conclusion	2
B. Findings	3
C. Recommendations	3
III. BACKGROUND	4
A. DDOT's Current Maintenance Operations	4
B. Scrap Parts Generated July 1, 2018 through June 30, 2019	4
C. DDOT Standard Operating Procedure (SOP) – Scrap Parts & Cores Procedure No. MM-21 Effective December 15, 2016	5 5
D. DDOT Standard Operating Procedure (SOP) – Scrap Parts & Cores Procedure No. MM-21 Effective December 18, 2019	5 5
E. Scrap Processing	6
IV. FINDINGS AND RECOMMENDATIONS	6
A. Possible Theft from Scrap Bin at DDOT Main Garage	6
B. Inability to Account for Parts Removed from Coaches	7
C. Weaknesses in DDOT Standard Operating Procedures	8
D. Absence of a Revenue Contract Related to Scrap	9
E. Absence of a City-Wide Revenue Monitoring Process	10
V. <u>DDOT Response</u>	12
VI. <u>OCFO Response</u>	17
VII. <u>OIG Reply to DDOT Response</u>	18
APPENDIX A: DDOT SCRAP PARTS & CORES STANDARD OPERATING PROCEDURES MM-21	20
APPENDIX B: DDOT SCRAP PARTS & CORES STANDARD OPERATING PROCEDURES VM-21	23
APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE	29

I. OBJECTIVE, SCOPE AND METHODOLOGY

A. Objective

The objective of the Office of Inspector General (OIG) forensic audit was to determine whether the Department of Transportation (DDOT) Vehicle Maintenance Department (VMD) policies and procedure are effective to reasonably prevent waste, fraud, abuse and/or corruption related to the disposition of vehicle parts removed from the DDOT coaches.

B. Scope

The scope of the OIG's audit is limited to the parts the VMD removed from the coaches during the period of July 1, 2018 through June 30, 2019.

It is important to note this audit did not assess the VMD's operational decisions related to the preventative and unscheduled maintenance of coaches. The audit also did not assess the frequency with which certain parts were replaced in coaches.

The scope of this forensic audit is strictly limited to the VMD's disposition of defective parts after the parts were removed from the coaches.

C. Methodology

The OIG's audit focused on the vehicle parts available for disposition based on the replacement parts DDOT's Materials Management Department (MMD) issued to the VMD during the period July 1, 2018 through June 30, 2019.

For purposes of this forensic audit, OIG's assessment presumed VMD logically removed various non-functional parts from the DDOT coaches to replace them with the parts the MMD issued to the VMD. Therefore, the VMD should have returned the defective parts to the MMD when MMD issued the replacement parts. After MMD received the defective parts from the VMD, MMD should have taken one of four actions stated below:

- (1) Return the defective parts to the proper vendor if the parts are still under warranty;
- (2) Submit the defective parts to a vendor for reclamation or refurbishment;
- (3) Submit the defective parts to a scrap vendor for money or credit; or
- (4) Properly dispose of the defective parts as garbage.

D. Standards

This audit was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS) issued by the Comptroller General of the United States. The GAGAS standards require that we plan and perform the audit to obtain

sufficient and appropriate evidence in support of the findings and conclusions, as identified in our audit objectives.

E. Authority and Role

The OIG’s authority to perform this audit is established in the 2012 Charter of the City of Detroit,¹ Section 7.5-306 which states in part:

The Inspector General shall investigate any public servant, city agency, program or official act, contractor and subcontractor providing goods and services to the City, business entity seeking contracts or certification of eligibility for City contracts and person seeking certification of eligibility for participation in any city program, either in response to a complaint or on the Inspector General’s own initiative in order to detect and prevent waste, abuse, fraud and corruption.

This particular OIG audit is therefore limited to reviewing the DDOT’s operation in the disposition of its scrap metal to ensure honesty and integrity in DDOT by rooting out waste, abuse, fraud and corruption.

Likewise, each City department, agency, board, office, and commission is responsible for establishing and maintaining its purposes as required by the Charter to ensure it operates economically, efficiently, effectively and with integrity.

II. EXECUTIVE SUMMARY

The Inspector General would like to thank the DDOT administration for its cooperation and assistance with this audit.

A. Conclusions

The OIG’s audit finds that DDOT did not have effective or efficient policies or procedures pertaining to the disposition of malfunctioning or defective scrap parts which required replacement. As such, DDOT was not able to account for the disposition of parts the VMD removed from the coaches during preventative and unscheduled maintenance for the audit period, July 1, 2018 through June 30, 2019. Due to the absence of policies and procedures pertaining to DDOT’s disposition of its scrap, we conclude the DDOT is susceptible to waste, fraud, abuse or corruption. DDOT personnel was unable to account for what happens to scrap metal parts removed from coaches during preventative and unscheduled maintenance. Moreover, we find DDOT has not taken advantage of scrap metal disposition option that can potentially generate revenue.

¹ As adopted by a vote of the People November 8, 2011 effective January 1, 2012 Article 7.5 Independent Department’s and Offices Chapter 3. Office of Inspector General.

B. Findings

1. An unauthorized hauler truck had access to the scrap bin behind DDOT's main garage.
2. DDOT VMD and MMD were not able to account for parts mechanics removed from DDOT coaches for the period July 1, 2018 through June 30, 2019. This includes parts identified as having been accumulated in the main garage.
3. DDOT's existing policies and procedures do not provide adequate guidance to ensure mechanics and other DDOT personnel properly handle disposition of parts that have scrap value.
4. DDOT does not have a contract with any vendor or internal process to ensure parts removed from coaches can be sold as scrap, which would generate additional revenue for DDOT and by extension the City of Detroit.
5. The City of Detroit's Office of the Chief Financial Officer (OCFO) does not have policies and procedures to monitor the financial and operational inventory controls of departments.

C. Recommendations

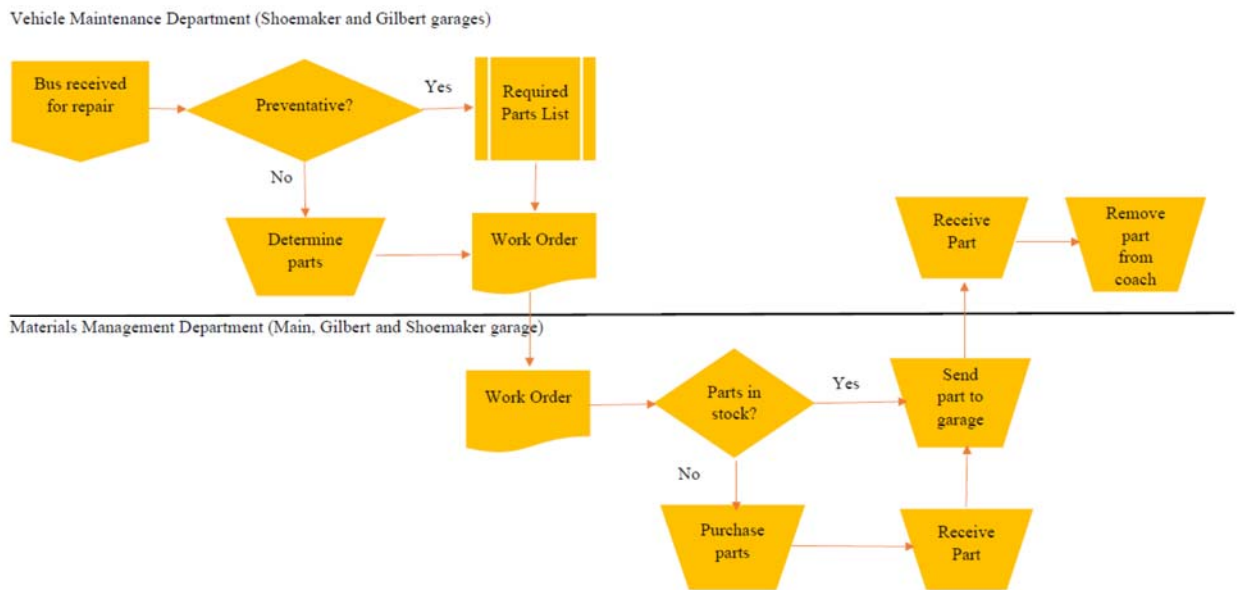
Based on the conditions identified during the audit, the OIG recommends that DDOT:

- (1) Establish policies and procedures to restrict unauthorized individuals from obtaining access to the scrap, especially the scrap bin in the yard of the main campus.
- (2) Identify all the scrap parts with scrap value, including but not limited to those accumulated in the main garage unit repair area, which mechanics removed from coaches.
- (3) Revise the VMD and MMD policies and procedures to formalize employee expectations related to parts with scrap value that VMD mechanics remove from coaches. These policies and procedures should focus on safeguarding parts from waste, fraud, abuse or corruptions.
- (4) Work with the OCFO to determine whether it is more cost effective and efficient for DDOT to generate revenue by processing and selling the scrap parts VMD mechanics removes from coaches or to establish a contract with a vendor.
- (5) The OCFO establish financial and inventory policies and procedures to monitor and ensure the department efficiently and effectively disposes of scrap parts with scrap value.

III. BACKGROUND

A. DDOT's Current Maintenance Operation

DDOT maintains an active fleet of 288 coaches in accordance with its Fleet Management Plan. VMD is responsible for performing preventative and unscheduled maintenance of coaches. To facilitate these repairs, VMD uses a work order system. Work orders for preventative maintenance activities include listing and identifying parts necessary to perform the repair of the coaches. Generally, the VMD mechanics determine the parts that are required to perform unscheduled maintenance activities. VMD submits the work orders to the MMD. The MMD is responsible for obtaining parts, except engines and transmissions². The MMD then issues the requested parts to each mechanic in the VMD. The following flowchart outlines DDOT's current process:



The flowchart ends with the mechanic removing the part from the coach because the disposition of the parts is unknown.

² The Heavy Repair Unit purchases engines and transmissions, both of which are reconditions when repaired. Therefore, they are not scrap items with scrap value.

B. Scrap Parts Generated July 1, 2018 through June 30, 2019

DDOT purchased \$8.4 million³ in replacement parts during the period July 1, 2018 through June 30, 2019. Several of the parts that were replaced have scrap value⁴. According to information provided by Materials Department Manager, Darrell Ragland, the MMD issued approximately 26,528 of the parts to VMD that replaced parts that had scrap value.

C. DDOT Standard Operating Procedure (SOP) – Scrap Parts & Cores Procedure No. MM-21 Effective December 15, 2016

DDOT provided the OIG with its Standard Operating Procedure (SOP) MM-21 issued by the MMD⁵. (See Appendix A.) The SOP indicates that its purpose is to outline "the steps to dispose [of] scrap and core parts." The objective is to "ensure used parts are safe[ly] discarded and cores are recorded." The SOP only addresses DDOT's process related to retuning parts to the vendor for refurbishment, full or partial refund or replacement. While DDOT SOP required MMD to discard the parts mechanics removed from the coaches, the SOP does not address any further action related to parts that are not subject to refurbishment or partial reimbursement (i.e., scrap parts).

DDOT established policies and procedures related to "core parts", which it returns to its vendors for refurbishment (i.e., engines and transmissions.) The vendors return these items to DDOT based on the existing contractual agreements. Furthermore, half way through the audit period, DDOT revised the policy to address the sale of parts mechanics remove from coaches. Due to the timing of the policy revision, the OIG recognizes that DDOT is in the process of establishing the procedures related to the new policy.

D. DDOT Standard Operating Procedure (SOP) – Scrap Parts & Cores Procedure No. MM-21 Effective December 18, 2019

DDOT revised the December 15, 2016 SOP MM-21 on December 18, 2019⁶. The "Purpose" and "Description" of the revised SOP remained the same. The "Method (Process)" section in the 2016 SOP only referred to "core parts," whereas the 2019 policy includes directions regarding selling "scrapped parts." However, this change

³ According to the City of Detroit Office of Chief Financial Officer (OCFO).

⁴ Scrap value is the value of the material(s) the part is made of and/or can be sold for.

⁵ See Appendix A

⁶ DDOT revised this policy in response to OIG investigation No. 17-0065. See Appendix B

occurred after the audit period, ending June 30, 2019. Mr. Ragland indicated DDOT is in the process of implementing the 2019 policy.

E. Scrap Processing

The value of scrap metal is determined by the type, (either ferrous⁷ or nonferrous)⁸, and the weight of each item. In this case, DDOT has the option to sell the ferrous and non-ferrous metal parts to:

- (1) the vendor for the value of the metal; or
- (2) a vendor, who would weigh and sell the parts to a third party for market value of the parts on the date of sale. Then the vendor would remit to DDOT the amount they received from the third party for the parts, less the agreed upon percentage of the transaction as payment for their services. Thus resulting in secondary income for DDOT.⁹

The City of Detroit currently has a contract with a vendor to process scrap metal generated through the General Services Department (GSD) Sign Shop.

IV. FINDINGS AND RECOMMENDATIONS

A. Possible Theft of Scrap in Bins at DDOT Main Garage

Condition: DDOT General Manager, Larry Luckett, stated he once witnessed a “scrap hauler” entering through the DDOT Main Garage gate. Although he was not able to recall the date, Mr. Luckett did recall stopping the truck and asking the purpose for its presence at DDOT. According to Mr. Luckett, the driver indicated he was there to empty the scrap bin. Mr. Luckett did not take any action to prevent the driver’s access to the scrap bin. The OIG requested that Mr. Luckett provide the name of the individual driving the truck and/or a description of the truck. However, despite many attempts made by the OIG¹⁰, no further information was provided.

Cause: Neither the DDOT security nor Mr. Luckett denied the hauler access even though DDOT did not have a contract with a vendor to empty the scrap bin.

Effect: The scrap is not adequately safeguarded from theft when DDOT security allows unidentified individuals access to its grounds.

⁷ Ferrous scrap metal – Iron and steel.

⁸ Nonferrous metal – Aluminum, copper, lead, tin, zinc etc.

⁹ DDOT’s primary source of income is fare revenue. Income from the sale of scrap metal would result in secondary income.

¹⁰Phone calls and emails on April 3rd and April 8th of 2020.

Recommendation: DDOT should establish policies and procedures to prevent unauthorized individuals from obtaining access to the scrap parts at all DDOT facilities. In addition, DDOT Administration should work with the OIG to ensure that the scrap in the bin behind the main garage is not susceptible to theft and establish a clear policy and procedure to ensure DDOT can accurately account for its maintenance or disposition of metal parts.

B. Inability to Account for Parts Removed from Coaches

Condition: During the audit period, DDOT was unable to account for parts mechanics removed from coaches. According to Mr. Luckett, when mechanics remove parts from a coach, they are not required to return the defective parts to MMD. Conversely, Mr. Luckett located several bins of parts, which appears to be sorted and labeled as scrap in the Unit Repair Area of the Main Garage. See photographs below.



Cause: According to Mr. Lockett, he does not know who put the parts there or why. However, he was aware staff stored scrap parts in Unit Repair in years past. Upon OIG’s request for details regarding the bins, Mr. Lockett stated employees directed him to the bins when he informed them about the OIG audit. Mr. Lockett did not provide any additional details.

As shown in the above photographs, the labels on the bins clearly identify the parts in each bin, the items are designated by someone as “scrap” and the cumulative weights of the items are labelled in the bins. The separation of the different parts in the bin suggest the metals are separated by type and weight, which are necessary information to sell the scrap parts.

Effect: The photographs also show that some DDOT employees accumulated these scrap parts in Unit Repair. The photographs also evidence that some individuals at DDOT know how to separate the items. However, it serves no purpose if no one at DDOT knows why DDOT is storing the scrap parts and how they are being disposed. DDOT can benefit from the sale of these items or refurbishment of the items.

Recommendation: The OIG recommends DDOT administration monitor the activity of its employees related to the collection and accumulation of parts that have scrap value.

C. Weaknesses in DDOT Standard Operating Procedures

Condition: Mr. Lockett provided the OIG with SOP MM-21¹¹ related to “scrap and core parts” which was in place during the period July 1, 2018 through June 30, 2019. It is interesting to note the SOP states in part:

“A number of parts can be reclaimed or rebuilt by an outside vendor. These items should be moved from Unit Repair and gathered in a specific location in the Unit Repair or Central Storeroom.”

However, the SOP did not address processing parts with scrap value. Instead, it only focused on sending parts to vendors for rebuilding or reclaiming.¹²

Mr. Lockett subsequently provided the OIG with a revised SOP.¹³ The revised SOP addresses the method to process parts with scrap value. However, the policy does not

¹¹ MM-21 Issued by Materials Maintenance Scrap Parts and Cores Effective Date December 15, 2016

¹² Rebuilt and reclaimed parts are repaired by the vendor, returned to DDOT and treated like a new part. Any scrap pieces resulting during the repair are the property of the vendor.

¹³ MM-21 Issued by Vehicle Maintenance Effective Date December 18, 2019 in response to internal control weaknesses the OIG identified during investigation number 19-0075-INV related to DDOT SOP VM-21.

include controls to ensure mechanics know the specific parts that would have scrap value or procedures to ensure these parts can be tracked to their final destination.

Cause: The SOP does not clearly identify and communicate the parts mechanics should submit parts to MMD which have scrap value. In addition, it does not include controls to ensure that MMD can track parts the mechanics remove from the coaches to the scrap process.

Effect: Due to the absence of the applicable controls, mechanics may, knowingly or unknowingly, discard DDOT scrap parts that has monetary value. Furthermore, mechanics do not record the specific parts they removed from coaches on work orders. Therefore, DDOT would not able to track parts through a clear process to their scraps final destination. The lack of oversight increases the risk of waste.

Recommendation: The MMD and VMD should work together to revise SOP MM-21 to include information necessary to identify the parts mechanics remove from coaches and to track them to the scrap process. Possible inventory control tools include:

- (1) a list of parts to which the SOP is applicable;
- (2) requiring mechanics to document the information on a “scrap log” or other required documentation when removed; and
- (3) requiring mechanics to record the work order number based on which the part was removed on the “scrap weight log” and/or other required documentation.

D. Absence of a Revenue Contract Related to Scrap

Condition: DDOT was not able to benefit from the sale of approximately 26,582 parts, which Mr. Ragland identified as having a monetary value. Mr. Ragland provided the OIG with a list of 87,810 parts MMD issued to VMD for preventative and unscheduled maintenance during the period July 1, 2018 through June 30, 2019. However, according to Mr. Ragland, DDOT did not have a contract with any vendor to process and to sell scrap generated through coach maintenance.

According to Miami Dade Department of Transportation (MDDT) Assistant Service Manager Antonio Abascal, MDDT maintains a revenue contract through which they process parts that result from coach maintenance. The contractor picks up the scrap part monthly, sells the parts and submits payment, less a fee, to MDDT.

Cause: According to Mr. Lockett, the absence of a contract for this purpose was an oversight. He believed there was a City-wide contract for this purpose. However, when Mr. Ragland contacted the Office of Contract and Procurement (OCP), a representative from the OCP was only able to provide him with a copy of the

Department of Public Works contract, which was established for ferrous metal generated through its sign shop.

Effect: DDOT has a potential source for additional revenue from the sale of scrap parts. The OIG contacted NFI Parts, “an industry leading source of transit bus and motor coach parts in North America,”¹⁴ to obtain the weights and components of a sample of parts Mr. Ragland identified. Based on the quantities issued, the OIG estimated the amounts DDOT would have derived from the sale of the sample of parts, using the estimated values on Metalary.com, as follows:

Part ¹⁵	Components ¹⁶	Units Issued ¹⁵	Weights (lbs.) ¹⁶	Value Per lb. ¹⁷	Revenue Range From - To ¹⁸	
Filters (incl. Filter Assemblies, Filter Kits)	Steel, Aluminum and plastic	17,503	7 to 13	\$ 0.01	\$ 1,225.21	\$ 2,275.39
Brake Kits	Steel and ceramic	520	20 to 30	0.01	104.00	156.00
Brake Chamber Assembly	Steel	111	8 to 15	0.01	8.88	16.65
Drums	Steel	390	85 to 100	0.01	331.50	390.00
Shock Absorber	Steel	148	12 to 15	0.01	17.76	22.20
Brake Shoes	Steel and ceramic	785	20 to 30	0.01	157.00	235.50
Diesel Fuel Tank	Plastic	51	50	0.12	306.00	

Recommendation: DDOT administration should work with OCP to contract with a vendor to process DDOT’s scrap parts for revenue.

E. Absence of a Citywide Revenue Monitoring Process

Condition: As of the initiation of this audit, the City of Detroit OCFO did not have any policy or procedures to monitor DDOT’s handling of parts. According to Mr. Ragland, approximately \$8.4 million was spent for DDOT replacement parts¹⁹.

¹⁴ NFI Parts website www.nfi.parts

¹⁵ Darrell Ragland, DDOT Materials Manager, provided the descriptions and number of parts MMD issued to VMD for the period July 1, 2018 through June 30, 2019

¹⁶ Shaun Howell, Account Resolution Coordinator, NFI Parts

¹⁷ Steel Value – Metalary.com, Plastic Value – Recycle Resource 2019 average value

¹⁸ OIG calculated assuming steel is the primary component of compound components.

¹⁹ The OCFO provided the OIG with a list of part purchases in excess of \$50,000. This document shows that DDOT total parts purchases for the period July 1, 2018 through June 30, 2019 were in excess of \$8.4 million.

Cause: The OCFO was not aware DDOT would have been able to generate revenue through the sale of DDOT scrap parts.

Effect: The OCFO does not have financial and operational inventory controls in place to ensure DDOT effectively and efficiently disposes of parts with scrap value, which would generate additional revenue for the City.

Recommendation: The OCFO should establish policies and procedures to monitor and ensure DDOT and other City Departments benefit from revenue generating opportunities where applicable.



June 30, 2020

Ellen Ha
Inspector General
65 Cadillac Square, Suite 3210
Detroit, Michigan 48226

**RE: Response to the Office of Inspector General (OIG) Audit File No. 20 - 0001-AUD
Forensic Audit of Department of Transportation Disposition of Scrap Parts**

Dear Ellen Ha:

The Detroit Department of Transportation (DDOT) is in receipt of the aforementioned Office of Inspector General Audit File No. 20 - 0001-AUD related to the disposal of scrap metal parts. Scrap disposal procedures have been reviewed and adjustments have been made in consideration of audit findings. DDOT's response including corrective actions implemented in an effort to improve standard operating procedures, increase oversight and increase operational efficiency are as follows:

FINDING, RECOMMENDATIONS AND RESPONDENT REMARKS

A. Possible Theft of Scrap in Bins at DDOT Main Garage

Condition: DDOT General Manager, Larry Luckett, stated he once witnessed a “scrap hauler” entering through the DDOT Main Garage gate. Although he was not able to recall the date, Mr. Luckett did recall stopping the truck and asking the purpose for its presence at DDOT. According to Mr. Luckett, the driver indicated he was there to empty the scrap bin. Mr. Luckett did not take any action to prevent the driver's access to the scrap bin. The OIG requested that Mr. Luckett provide the name of the individual driving the truck and/or a description of the truck. However, despite many attempts made by the OIG, no further information was provided.

Cause: Neither the DDOT security nor Mr. Luckett denied the hauler access even though DDOT did not have a contract with a vendor to empty the scrap bin.

Effect: The scrap is not adequately safeguarded from theft when DDOT security allows unidentified individuals access to its grounds.

Recommendation: DDOT should establish policies and procedures to prevent unauthorized individuals from obtaining access to the scrap parts at all DDOT facilities. In addition, DDOT Administration should work with the OIG to ensure that the scrap in the bin behind the main garage is not susceptible to theft and establish a clear policy and procedure to ensure DDOT can accurately account for its maintenance or disposition of metal parts.



DDOT Response

- i. The department has addressed this concern in its original response to OIG on December 17, 2019. DDOT only has scrap metal containers in the yard at the Warren location. Both satellite locations (Gilbert and Shoemaker) transport scrap metal to the Warren office daily. The Warren location has secured the gate entrance located on the I-75 service drive and a security guard is now located at the Russell entrance.
- ii. DDOT has already taken additional measures to ensure the scrap in the containers at the main office is not susceptible to theft or misappropriation.
- iii. A SOP including clear policies and procedures has been established to prevent future concerns related to this matter as described by Larry Lockett above. SOP MM21 was provided to the OIG on December 17, 2019

B. Inability to Account for Parts Removed from Coaches

Condition: During the audit period, DDOT was unable to account for parts mechanics removed from coaches. According to Mr. Lockett, when mechanics remove parts from a coach, they are not required to return the defective parts to MMD. Conversely, Mr. Lockett located several bins of parts, which appears to be sorted and labeled as scrap in the Unit Repair Area of the Main Garage. See photographs below.

Cause: According to Mr. Lockett, he does not know who put the parts there or why. However, he was aware staff stored scrap parts in Unit Repair in years past. Upon OIG's request for details regarding the bins, Mr. Lockett stated employees directed him to the bins when he informed them about the OIG audit. Mr. Lockett did not provide any additional details.

As shown in the above photographs, the labels on the bins clearly identify the parts in each bin, the items are designated by someone as "scrap" and the cumulative weights of the items are labelled in the bins. The separation of the different parts in the bin suggest the metals are separated by type and weight, which are necessary information to sell the scrap parts.

Effect: The photographs also show that some DDOT employees accumulated these scrap parts in Unit Repair. The photographs also evidence that some individuals at DDOT know how to separate the items. However, it serves no purpose if no one at DDOT sale knows why DDOT is storing the scrap parts and how they are being disposed. DDOT can benefit from the of these items or refurbishment of the items.

Recommendation: The OIG recommends DDOT administration monitor the activity of its employees related to the collection and accumulation of parts that have scrap value.

DDOT Response

- i. **Maintenance Superintendents are responsible for overseeing that procedures related to the disposal of scrap parts is adhered to as required by SOP MM-21. This includes monitoring employee's activity related to the collections of scrap parts.**



C. Weaknesses in DDOT Standard Operating Procedures

Condition: Mr. Lockett provided the OIG with SOP MM-21 related to “scrap and core parts” which was in place during the period July 1, 2018 through June 30, 2019. It is interesting to note the SOP states in part:

“A number of parts can be reclaimed or rebuilt by an outside vendor. These items should be moved from Unit Repair and gathered in a specific location in the Unit Repair or Central Storeroom.”

However, the SOP did not address processing parts with scrap value. Instead, it only focused on sending parts to vendors for rebuilding or reclaiming.¹²

Mr. Lockett subsequently provided the OIG with a revised SOP.¹³ The revised SOP addresses the method to process parts with scrap value. However, the policy does not include controls to ensure mechanics know the specific parts that would have scrap value or procedures to ensure these parts can be tracked to their final destination.

Cause: The SOP does not clearly identify and communicate the parts mechanics should submit parts to MMD which have scrap value. In addition, it does not include controls to ensure that MMD can track parts the mechanics remove from the coaches to the scrap process.

Effect: Due to the absence of the applicable controls, mechanics may, knowingly or unknowingly, discard DDOT scrap parts that has monetary value. Furthermore, mechanics do not record the specific parts they removed from coaches on work orders. Therefore, DDOT would not able to track parts through a clear process to their scraps final destination. The lack of oversight increases the risk of waste.

Recommendation: The MMD and VMD should work together to revise SOP MM-21 to include information necessary to identify the parts mechanics remove from coaches and to track them to the scrap process. Possible inventory control tools include:

- (1) a list of parts to which the SOP is applicable;
- (2) requiring mechanics to document the information on a “scrap log” ore other required documentation when removed; and
- (3) requiring mechanics to record the work order number based on which the part was removed on the “scrap weight log” and/or other required documentation.

DDOT Response

- i. The DDOT has previously provided a list of all parts with and without scrap value.
- ii. SOP MM21 has been revised to include the following: Mechanic’s will notate all parts removed from buses on the work order.



- iii. Parts will be logged by the Storekeeper at each location and transported to the main office.
- iv. Reclaimed parts are tagged and returned to the vender for core credit which is reported to DDOT accounting.
- v. Disposal parts are placed in the scrap container and disposed of in accordance with SOP MM21.

D. Absence of a Revenue Contract Related to Scrap

Condition: DDOT was not able to benefit from the sale of approximately 26,582 parts, which Mr. Ragland identified as having a monetary value. Mr. Ragland provided the OIG with a list of 87,810 parts MMD issued to VMD for preventative and unscheduled maintenance during the period July 1, 2018 through June 30, 2019. However, according to Mr. Ragland, DDOT did not have a contract with any vendor to process and to sell scrap generated through coach maintenance.

According to Miami Dade Department of Transportation (MDDT) Assistant Service Manager Antonio Abascal, MDDT maintains a revenue contract through which they process parts that result from coach maintenance. The contractor picks up the scrap part monthly, sells the parts and submits payment, less a fee, to MDDT.

Cause: According to Mr. Lockett, the absence of a contract for this purpose was an oversight. He believed there was a City-wide contract for this purpose. However, when Mr. Ragland contacted the Office of Contract and Procurement (OCP), a representative from the OCP was only able to provide him with a copy of the Department of Public Works contract, which was established for ferrous metal generated through its sign shop.

Effect: DDOT has a potential source for additional revenue from the sale of scrap parts. The OIG contacted NFI Parts, “an industry leading source of transit bus and motor coach parts in North America,” to obtain the weights and components of a sample of parts Mr. Ragland identified. Based on the quantities issued, the OIG estimated the amounts DDOT would have derived from the sale of the sample of parts, using the estimated values on Metalary.com, as follows:

Recommendation: DDOT administration should work with OCP to contract with a vendor to process DDOT’s scrap parts for revenue.

DDOT Response

- i. In December 2019 the city-wide contract with Ferrous Processing and Trading was amended by OCP to include the Detroit Department of Transportation. Please see the amendment signed by Angelica Jones, Interim Director. The current contract is slated to be renewed after its expiration on July 31, 2020.
- ii. The Department disputes the list provided by Mr. Ragland was exclusively metal parts that hold scrap value. It appears that the list was inclusive of non-metal, non-scrapable



parts like wind shields, filters and headlights which all require environmentally friendly disposal. Therefore, the estimated monetary value is grossly inaccurate.

- iii. The current process does generate revenue for the Department when core parts and scrap metal are sold for recycle.

In conclusion, it is the Departments position that it has made the necessary procedural adjustments to dispel all previously stated concerns related to this matter. Larry Luckett, Assistant Director of Maintenance will continue to monitor the situation and make procedural changes as needed to facilitate continuous improvement.

Best regards,

C. Mikel Oglesby
Executive Director Transit
City of Detroit
Oglesbym@detroitmi.gov



CITY OF DETROIT
OFFICE OF THE CHIEF FINANCIAL OFFICER

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July 1, 2020

Ellen Ha, Esq., CIG Inspector General
Office of Inspector General
65 Cadillac Square, Suite 3210
Detroit, MI 48226

Dear Ms. Ha:

The following presents the Department's response for the indicated finding and related recommendation in the forensic audit of the Department of Transportation Disposition of Scrap Parts prepared by the Office of Inspector General.

B. Findings

5. The City of Detroit's Office of the Chief Financial Officer (OCFO) does not have policies and procedures to monitor the financial and operational inventory controls of departments.

C. Recommendations

- (5) The OCFO establish financial and inventory policies and procedures to monitor and ensure the department efficiently and effectively disposes of scrap parts with scrap value.

OCFO Response

The OCFO will work with each relevant department to develop policies and procedures related to the sale of disposable assets.

Sincerely,

David Massaron
Chief Financial Officer, City of Detroit

IV. **OIG Reply to Departmental Responses**

The Office of Inspector General (OIG) appreciates the timely responses of the Department of Transportation (DDOT) and Office of the Chief Financial Officer (OCFO). Furthermore, the OIG acknowledges the corrective action the DDOT and OCFO administrations plan to or have already implemented during and after the completion of the OIG audit.

However, DDOT's response concludes by stating it "...has made the necessary procedural adjustments to dispel all previously stated concerns related to this matter." The OIG disagrees with the DDOT's statement for the following reasons:

- DDOT responded that it addressed the concerns in finding #1 on December 17, 2019. However, SOP MM-21, as revised on December 18, 2019, does not address the safeguarding of the scrap bin at the Warren location. (See Appendix B) These measures should be covered in an SOP issued by the Security Division. Further, DDOT did not provide any evidence or specific proof, which would support its position
- DDOT responded that its Maintenance Superintendents are responsible for overseeing the procedures related to the disposal of scrap parts. However, the scrap parts were not recycled and the DDOT provided no evidence that Maintenance Superintendents are recycling DDOT's scrap parts. Instead, based on the OIG's investigation, DDOT scrap parts are simply being accumulated in the DDOT Main Garage, as pictured in the OIG's report. While DDOT makes the assertion that Maintenance Superintendents are responsible for overseeing DDOT's disposal of its scrap parts, DDOT does not provide any evidence to support its response.
- DDOT's response indicates that it provided a list of scrap parts eligible for recycling to the OIG. However, DDOT did not indicate the list was incorporated into SOP MM-21. The OIG's recommendation refers to DDOT revising SOP MM-21 to include a list of scrap parts to which the SOP is applicable. Therefore, DDOT has not corrected the condition OIG identified in the finding.
- DDOT's response states the City of Detroit amended a "city-wide" contract with Ferrous Processing and Trading. However, the original contract was not "city-wide, it was between the Department of Public Works and the vendor. DDOT has not provided any evidence to confirm that DDOT was added to the contract.
- The response disputes the accuracy of the scrap parts list DDOT provided to the OIG. On February 24, 2020, we sent an email¹ to Mr. Ragland and Mr. Luckett to provide the OIG with a list of scrap parts that were eligible for recycling. Mr. Ragland responded by providing a list of scrap parts: eligible for recycling, partially eligible for recycling, refurbishable, or eligible for recycling. If Mr. Luckett believed the list was incorrect, he had the opportunity to review and change the list at that time. He did not. OIG included Mr. Luckett on the email as Mr. Ragland's supervisor to ensure

¹ February 24, 2020 email to Darrell Ragland and Larry Luckett with list of parts attached

he was aware of the information Mr. Ragland shared with the OIG. OIG relied on the list based on the expertise of the DDOT's Materials Manager. DDOT has provided no evidence to prove the list we received from Mr. Ragland is inaccurate. Finally, the response alleges DDOT receives revenue through core parts and scrap metal sold for recycle. However, again, we note the DDOT did not provide any evidence to support its position.

In conclusion, the OIG appreciates the cooperation of the DDOT and OCFO administrations and employees. The OIG will assess the effectiveness of the scrap metal process including corrective actions cited in the responses during a follow-up audit related to this report.

Standard Operating Procedure		Procedure No: MM-21	Page: 2 Page 1 of 2
SCRAP PARTS & CORES		Supersedes:	Rev. No.:
Issuing Department: Materials Management Division	Approval: <hr/> Materials Manager	Previous Rev. Date:	Effective Date: December 15, 2016
<p><u>Table of Contents</u></p> <p>1.0 Purpose of Procedure</p> <p>2.0 Procedural Objective</p> <p>3.0 Scope of Application</p> <p>4.0 Definitions</p> <p>5.0 Method (Process)</p> <p>6.0 Supporting Form/Checklist</p> <p>7.0 Roles and Responsibilities</p> <p>8.0 Related Documentation</p> <p>9.0 Authority/Regulation</p> <p>10.0 Records</p>			
<p>1.0 Purpose of Procedure</p> <p>The procedure outline the steps to dispose scrap and core parts.</p>			
<p>2.0 Procedural Objective</p> <p>The objective of the procedure is to ensure used parts are safety discarded and cores are recorded.</p>			
<p>3.0 Scope of Application</p> <p>The scope of this procedures applies to Material Management Storekeepers.</p>			
<p>4.0 Definitions</p> <p>Scrap Part – means waste and discarded metal or parts.</p> <p>Core – means a core is any component which can either be rebuilt by the Unit Repair Shop or by an outside vendor.</p>			

Stores Receipt Voucher (SRV) – means a stores receipt voucher that list the part number, part description, quantity, vendor name and purchase order of reclaim cores.

Unit Repair Shop – A physical location where scrap parts are kept.

5.0 Method (Process)

1. All cores shall be returned to the Unit Repair Shop for either scrapping, rebuild or reclamation. If any doubt exists as to whether a unit can be rebuilt or reclaimed, the unit should be tagged and sent to the Unit Repair Shop. Unit Repair is solely responsible for determining the status of core units including the option that the unit be scrapped.
2. All core units shall be shipped on a daily basis to the Central Storeroom.
3. The core units shall be tagged with the bus number from which the core came, the reason the core was removed, the date of removal, the mileage on the bus from which the unit came at the time it was removed and a red warranty tag, if the part is still under warranty.
4. Once the cores have been received by the Central Storeroom, they are to be sent immediately to the Unit Repair Shop which is responsible for determining, whether the core can be rebuilt or reclaimed and the storage of the units.
5. A number of parts can be reclaimed or rebuilt by an outside vendor. These items should be moved from Unit Repair and gathered in a specific location in the Unit Repair or Central Storeroom.
6. Once there is a need for the item and a significant number of components have accumulated, the Central Warehouse shall prepare a stores receipt voucher (SRV) and notify Contracting and Procurement that a purchase order is needed.
7. Contracting and Procurement shall send the purchase order to the selected vendor, release the SRV that was created by the Central Warehouse and notify the vendor to arrange with the vendor for the pickup or shipment of the items.
8. If the items are picked up directly by the vendor, the Central Warehouse shall have the vendor, sign and date the SRV indicating the vendor's receipt of the material.
9. If the items are shipped to the vendor, the Central Warehouse shall arrange the shipment of the items. A copy of the SRV shall be packed with the parts to serve as a packing slip.
10. If the item was non reclaimable and scrapped, the order quantity shall be reduced on the purchase order by Contracting and Procurement.
11. Incoming reclaimed parts shall be treated the same as new parts.

6.0 Supporting Form/Checklist

Stores Receipt Form

7.0 Roles and Responsibilities

It is the responsibilities of Vehicle Maintenance to transport the scrap from the Satellites locations to Central Warehouse.

It is the responsibilities of the Stores Operations Supervisor or Materials Manager to contact Contracting and Procurement to generate a purchase order and to complete the SRV.

The Storekeeper to verify the quantities of reclaim cores and to transport the scrap bins to Unit Repair.

8.0 Related Documentation

There are no related documentation/procedures that provide additional information, guidance, etc.

9.0 Authority/Regulation

There are no authorizing legislation and/or regulations that give the legal basis for the SOP (i.e. Federal legislation, FTA Circulars, City ordinances, etc.)

10.0 Records

This policy is will be kept in the Materials Management Division Policy Manual located in the Materials Manager office.

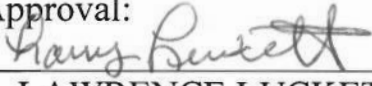
Standard Operating Procedure		Procedure No: MM-21	Page 1 of 3
SCRAP PARTS & CORES		Supersedes:	Rev. No.: 1
Issuing Department: VEHICLE MAINTENANCE	Approval:  LAWRENCE LUCKETT Assistant Director	Previous Rev. Date: December 15, 2016	Effective Date: December 18, 2019

Table of Contents

- 1.0 Purpose of Procedure**
- 2.0 Procedural Objective**
- 3.0 Scope of Application**
- 4.0 Definitions**
- 5.0 Method (Process)**
- 6.0 Supporting Form/Checklist**
- 7.0 Roles and Responsibilities**
- 8.0 Related Documentation**
- 9.0 Authority/Regulation**
- 10.0 Records**

1.0 Purpose of Procedure

The purpose of this procedure is to outline the steps to dispose scrap and core parts.

2.0 Procedural Objective

The procedural objective is to ensure used parts are safely discarded and cores are recorded.

3.0 Scope of Application

The scope of the procedures applies to the duties of the Material Management Storekeepers as it relates to the scrapping process at DDOT.

4.0 Definitions

Scrap Part –waste and discarded metal or parts.

Core – any component which can either be rebuilt by the Unit Repair Shop, or by an outside vendor.

Scrap Weight Log (SWL) – a log of the weights of all recorded scrapped parts.

Stores Receipt Voucher (SRV) – a voucher that lists the part number, part description, quantity, vendor name and purchase order of reclaimed cores.

Unit Repair Shop – The physical location where core parts are kept.

5.0 Method (Process)

1. All cores shall be returned to the **Central Warehouse** for either scrapping or reclaiming. Garage **Storekeepers** will return all cores and scrapped parts to Central Warehouse on a weekly basis, (via the dock delivery truck).
2. Once the cores and scrap have been **received by the Central Warehouse**, they will determine if the parts can be reclaimed or scrapped.

SCRAPPED PARTS:

3. Parts are put in to the scrap bins and weighed **at the Central Warehouse**, and later placed into the vendor's dumpster. The weights are recorded, in the Scrap Weight Log (SWL).
4. **Central Warehouse** shall keep a log of all weights, and their recorded dates.
5. Once the scrap weight in the dumpster is full, Manager/Supervisor will **contact the scrap vendor** to schedule a pickup. At that time, Manager/Supervisor will also be responsible for completion of a **Store Receipt Voucher (SRV)**, and issue a copy to the vendor. Once the scrap dumpster is picked up by the vendors scrap truck, it will be escorted by the Materials Manager or Stores Operations Supervisor to City of Detroit weight scale and then weighed for verification. Upon completion, DDOT and vendor shall then receive its copy of the ticket showing its weight content. The vendor shall then take the scrap to the scrap yard.
6. All weight tickets will be kept on file. The vendor will **issue a monetary check to City of Detroit DDOT** for the total value of the scrap being picked up.

RECLAIMED PARTS:

7. A number of parts can be reclaimed by an outside vendor. These items shall be stored **Central Warehouse**.
8. Once there is a need for the part and a significant number of cores have been accumulated, the **Central Warehouse shall prepare a Stores Receipt Voucher (SRV)**, and complete a request to Procurement that a Purchase Order is needed.

9. **Procurement shall send the Purchase Order** to the part's vendor, **to arrange for the pick-up or shipment** of the core parts.
10. If the **core parts are picked up** directly by the vendor, the Central Warehouse shall have the vendor, sign and date the SRV, indicating the vendor's receipt of the material.
11. If the **core parts are shipped** to the vendor, the Central Warehouse shall arrange for shipment of the core parts. A copy of the SRV shall be included with the parts to serve as a packing slip.
12. Central Warehouse will keep a log of all scrapped parts and cores sent to the vendors.

6.0 Supporting Form/Checklist

Stores Receipt Voucher (SRV), Scrap Weight Log (SWL)

7.0 Roles and Responsibilities

It is the responsibilities of **Vehicle Maintenance** to transport the scrap from the Satellite location to the Central Warehouse.

It is the responsibilities of the **Materials Manager or Stores Operations Supervisor** to contact Contracting and Procurement to generate a Purchase Order and to complete the SRV.

It is the responsibilities of the **Storekeeper** to verify the quantities of reclaimed cores, and to transport the scrapped parts (in the scrap bins) to Unit Repair.

8.0 Related Documentation

There are no related documentation/procedures that provide additional information, guidance, etc.

9.0 Authority/Regulation

There are no authorizing legislation and/or regulations that give the legal basis for the SOP (i.e. Federal legislation, FTA Circulars, City ordinances, etc.)

10.0 Records

This policy will be kept in the Materials Management Division Policy Manual, located in the Materials Manager office. It is also kept in the Compliance Department of DDOT.

CITY OF DETROIT - DEPARTMENT OF TRANSPORTATION
STORES RECEIPT

86149

Storeroom _____ Date _____

The following materials received from the DEPARTMENT OF TRANSPORTATION:

Quantity	Classification Number	Description of Material	Date Received	Received on Pur. Order

From Stock _____ Quantity From Using Department _____ Quantity

Firm _____ Received by _____

Address _____ Shipped Via _____

Reason for Withdrawal:	Disposition:
For Repairs _____	Repaired on P.O. No. _____
Returned for Credit _____	Applied on P.O. No. _____
For Replacement _____	Date Replaced _____ P.T. No. _____ Rec. Slip No. _____
For Sale of Material or Equipment _____	Sale Order No. _____
For Other Reasons _____	_____

Senior Storekeeper

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
1 ***** USE 31NF060004*****	47 BEARING ASSY,THRUST
2 *****USE 71NF060018*****	48 BEARING ASSY,WHEEL HUB REAR
3 ABSORBER ASSY,SHOCK FRONT	49 BEARING,FRONT INNER TAPER
4 ABSORBER ASSY,SHOCK REAR SHORT	50 BEARING,FRONT OUTER TAPER
5 ABSORBER,SHOCK FRT FSD KONI	51 BEARING,INNER/FRONT WHEEL HUB
6 ABSORBER,SHOCK REAR FSD KONI	52 BEARING,OUTER/FRONT WHEEL HUB
7 ACCELERATOR ASSY, ELECTRONIC	53 BEARING,REAR ANCHOR PLATE
8 ACCELERATOR ASSY,ELECTRONIC	54 BEARING,ROD
9 ACCELERATOR,ELECTRONIC	55 BELT TENSIONER (HYBRID ONLY)
10 ACCUMLATOR,TRANS,BD(4)00R/W4TH	56 BELT TENSIONER, CURBSIDE
11 ACCUMULATOR,INSTALLATION	57 BELT TENSIONER, STREETSIDE
12 ACTUATOR, FUEL CUMMINS ONLY	58 BIKE RACK ASSY SPRORTWRKS ONLY
13 ACTUATOR, TURBO HYBRID	59 BLOWER ASSY,24 VOLT
14 ACTUATOR,TUR ELECTRIC 12V	60 BLOWER ASSY,24V
15 ACTUATOR,TUR ELECTRIC 24V	61 BLOWER ASSY,24V DRIVERS
16 ACTUATOR,TURBOCHRGR KIT DIESEL	62 BLOWER ASSY,EVAPORATOR LH 24V
17 ADJUSTER KIT,SLACK REAR L&R	63 BLOWER REPLACEMENT KIT
18 ADJUSTER KIT,SLACK RH FRT	64 BLOWER,ASSY 24 V
19 ADJUSTER,SLACK AUTO RR LH	65 BLOWER,DEFROSTER MOTOR 24VOLT
20 ADJUSTER,SLACK AUTO RR RH	66 BOLT, AIR GOV. M8-1.25X70MM
21 ADJUSTER,SLACK LEFT FRONT	67 BOLT, EYE
22 AIR COMPRESSOR ASSY	68 BOLT, HEX
23 AIR SPRING, BELLOW	69 BOLT, HEX 1-14 X 16 6 GR 8
24 ALTENATOR,50DN 24V 270A	70 BOLT, HEX 5/8"-11 UNC X 4 9/16
25 ALTENATOR,C706 28V 300A N/FAN	71 BOLT, HXHD 5/8"-18 X2.25" LG
26 ALTERNATOR ASSY,24V	72 BOLT, M10 X 1.5 X 70MM
27 ALTERNATOR ASSY,EMP 450W/PULLE	73 BOLT, M12 X 1.75 X 90MM
28 ALTERNATOR PULLEY,IDLER	74 BOLT, M18 X 1.5" X 100
29 ANGLE,MOUNTING	75 BOLT, TORX M18 X 1.5 X 60
30 ARM ASSY, TIE ROD LH	76 BOLT,1.0"-14X4.5" GR8
31 ARM ASSY, TIE ROD RH	77 BOLT,1/2"-13X2 LG ALTERNATOR
32 ARM ASSY,DOOR LH WIPER W/LNKG	78 BOLT,BUTTON HEAD TORX M8
33 ARM ASSY,TIE ROD LH	79 BOLT,BUTTON TORX HEAD
34 ARM ASSY,TIE ROD RH	80 BOLT,BUTTON TORX HEAD 30MM
35 ARM,MIRROR CURBSIDE ASSY	81 BOLT,CALIPER
36 ARM,MIRROR DRIVER SIDE(STREET)	82 BOLT,CAP SPIDER AXLE/FRONT
37 ARM,STEERING FRT LH	83 BOLT,CARRIAGE 1/4'-20 UNCX2'LG
38 ARM,STEERING LH	84 BOLT,HEX
39 ARM,TIE ROD CURBSIDE	85 BOLT,HEX 3/4 UNCX12 LONG
40 AUXILIARY COOLANT HTR ASM, 24V	86 BOLT,HEX 3/4"-10UNC X 4 1/2"LG
41 BAR ASSY, EMERGENCY RELEASE	87 BOLT,HEX 3/4"-10UNCX5 1/2"LG
42 BATTERY SLIDER ASSY	88 BOLT,HEX 3/4-10 UNCX3 1/2"LG
43 BATTTERY SLIDER ASSY	89 BOLT,HEX 3/4-10UNCX4"LG
44 BEAM, BENT	90 BOLT,HEX 5/8"-11UNCX5 2.50"LG
45 BEARING ASSY,FRONT KNUCKLE	91 BOLT,HEX M10
46 BEARING ASSY,HUB UNIT	92 BOLT,HEX M10 X 35

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
93 BOLT,HEX M18 X 1.5 X 65	139 BRACKET,SLIDE-IN SLIDE-OFF KIT
94 BOLT,HEX M20 X 2.5MM X 80MM LG	140 BRACKET,SLIDE-IN STAND-OFF
95 BOLT,HEX M20X1.5X60	141 BRACKET,STREETSIDE MOUNTING
96 BOLT,HEX M24X1.5MM 90LG	142 BRAKE CHAMBER ASSY, CENTER
97 BOLT,HXHD 5/8"-18 X 4.0" GR8	143 BRAKE CHAMBER ASSY,FRONT
98 BOLT,HXHD M12 1.75 X 25LLG	144 BRAKE CHAMBER ASSY,FRT CS 24L
99 BOLT,HXHD M12 1.75 X 35LG	145 BRAKE CHAMBER ASSY,FRT SS 24L
100 BOLT,M10 X 1.5 MM X 35MM	146 BRAKE CHAMBER ASSY,RR T24(2-4)
101 BOLT,MOUNTING WHEEL M22X1.5X79	147 BRAKE CHAMBER,REAR
102 BOLT,RAD ROD ATTACHING	148 BRAKE KIT,FRT/REAR
103 BOLT,RADIATOR HEX #83/8-16X2	149 BRAKE TREADLE ASSY
104 BOLT,RADIUS ROD M22X1.5 FRONT	150 BRAKE,CHAMBER LH FRT
105 BOLT,SERRATED LOCKING	151 BRAKE,CHAMBER RH FRT
106 BOLT,TORX M18 X 1.5 X 60	152 BRAKE,DISC CTR AXLE CS ASSY
107 BOLT,WHEEL MOUNTION REAR	153 BRAKE,DISC CTR AXLE SS ASSY
108 BOOSTER ASSY,DRIVER FAN 24V	154 BRAKE,PAD KIT FRONT
109 BOOSTER PUMP ASSY, 24V	155 BUZZER,ALARM W/C PUMP
110 BOOSTER PUMP ASSY, 27V	156 CAMSHAFT ASSY,BRAKE FRONT LH
111 BRACE,TAIL SUPPORT	157 CAMSHAFT ASSY,BRAKE FRONT RH
112 BRACKET	158 CAMSHAFT ASSY,BRAKE REAR LH
113 BRACKET ASSY, CURBSIDE MOUNT	159 CAMSHAFT ASSY,BRAKE REAR RH
114 BRACKET ASSY,AIR TUBE	160 CAMSHAFT,BRAKE LH FRONT
115 BRACKET ASSY,BRAKE CHAMBER RH	161 CAMSHAFT,BRAKE RH FRONT
116 BRACKET ASSY,FRT BRK CHAMBER	162 CAMSHAFT,LH FRONT
117 BRACKET ASSY,WELDED W/C/L	163 CAMSHAFT,LH REAR
118 BRACKET GAS SPRING MTG LOWER	164 CAMSHAFT,REAR BRAKE C/S
119 BRACKET, COMPRESSOR MOUNTING	165 CAMSHAFT,REAR BRAKE R/S
120 BRACKET, DISPLAY	166 CAMSHAFT,RH FRONT
121 BRACKET, MOUNTING	167 CAMSHAFT,RH REAR
122 BRACKET, RAD BRACE MTG	168 CANISTER,DESICCANT
123 BRACKET,ABS SENSOR	169 CARRIER ASM, W/YOKE
124 BRACKET,ALTERNATOR	170 CARRIER ASSY KIT,DIFFERENTIAL
125 BRACKET,BRAKE CHAMBER RH	171 CARTRIDGE ELEMENT,POWER STEERI
126 BRACKET,BUMPER FRONT LEFT	172 CASING,BLOWER RH EVAPORATOR
127 BRACKET,BUMPER FRONT RIGHT	173 CATALYST,MODULAR EXHAUST UPPER
128 BRACKET,FRT BRK CHAMBR RH ASSY	174 CATALYST,MODULE EXHAUST SHORT
129 BRACKET,GAS SPRING MTG	175 CENTER LINKS ASSEMBLY
130 BRACKET,GAS SPRING MTG UPPER	176 CENTER PIVOT
131 BRACKET,HYD RESERVOIR SPACER	177 CHAIN SPACER, BLOCK
132 BRACKET,INTERIOR MIRROR	178 CHAIN, ROLLER #41 X 36 LG
133 BRACKET,LEVELING VALVE	179 CHAMBER ASSY,REAR BRAKE LH
134 BRACKET,MOUNTING	180 CHAMBER ASSY,REAR BRAKE LH/RH
135 BRACKET,MTG LH EXT	181 CHAMBER ASSY,REAR BRAKE RH
136 BRACKET,MTG RH EXT	182 CHIME ASSY,PASSENGER SIGNAL
137 BRACKET,PIVOT BIKE RACK	183 CLAMP ASSY,AIR INTAKE ENGINE
138 BRACKET,REAR ABS SENSOR	184 CLAMP, CONST T-BOLT 3"

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
185 CLAMP, SADDLE	231 DEF TANK ASSY
186 CLAMP,3/4" HOSE	232 DEF,FAST 330
187 CLAMP,5"	233 DOOR ASSY, ACCESS
188 CLAMP,BAND DPF MTG	234 DOOR ASSY, BATTERY ACCESS
189 CLAMP,BREEZE 2.25"-3/13/" DIA	235 DOOR ASSY, FUEL FILLER ACCESS
190 CLAMP,CONSTANT TENSION HOSE	236 DOOR ASSY, RTRN AIR GRIL & HVA
191 CLAMP,EXHAUST	237 DOOR ASSY, SIDE CONSOLE ACCESS
192 CLAMP,EXHAUST 4.75 ID	238 DOOR ASSY, SURGE TANK ACCESS
193 CLAMP,EXHAUST 40'V-BAND	239 DOOR ASSY,BATTERY ACCESS
194 CLAMP,EXHAUST SYSTEM 6"	240 DOOR ASSY,FUEL FILLER ACCESS
195 CLAMP,HOSE 0.31"	241 DOOR ASSY,FUSEBOX ACCESS
196 CLAMP,SEAL EXHAUST 5.0"	242 DOOR ASSY,RADIATOR ACCESS
197 CLAMP,SEAL EXHAUST SYSTEM 4.0"	243 DOOR ASSY,RADIUS ROD ACCESS
198 CLAMP,T-BOLT W/SPRING AIR	244 DOOR ASSY,REAR ENGINE
199 CLAMP,TILLER LINE PASSENGER	245 DOOR ASSY,SURGE TANK
200 CLAMP,V BAND	246 DOOR ASSY,UPPER PILLAR SS
201 CLAMP,V BAND EXH. OUTLET	247 DOOR SHAFT AND ARM ASSY FORE
202 CLAMP,V BAND EXHAUST SYSTEM	248 DOOR SHAFT ARM ASSY,AFT
203 CLAMP,V BAND,AIR INTAKE	249 DOWEL,TAPERED
204 CLAMP,V-BAND 4.75"	250 DPF ASSY
205 CLAMP,V-BAND AIR TRANSFER CONN	251 DRAG LINK ASSY
206 CLAMPS,RADIATOR COOLER TUBE	252 DRAGLINK,ASM
207 CLUSTER IP ASSY	253 DRAIN PLUG,#6.5AE
208 CLUTCH ASSY,24 VDC 2-5V GROOVE	254 DRIVE SHAFT
209 CLUTCH ASSY,24V DC	255 DRIVESHAFT ASM, 1710 HYBRID
210 CLUTCH ASSY,W/COIL A/C 24 VOLT	256 DRIVESHAFT,1710 1/2 RND
211 COIL,CLUTCH ASSY A/C 24 VOLT	257 DRUM,BRAKE FRONT
212 COIL,HEATER	258 DRUM,BRAKE FRT BALANCED HUB
213 COIL,UNLOADER	259 DRUM,BRAKE REAR AXLE ASSY
214 CONE,OUTER HUB DRUM ASSY	260 DRUM,FRT BRAKE 6X16.5
215 CONVERTER,DC-DC	261 DRUM,REAR BRAKE
216 COOLANT LEVEL SENSOR MODULE	262 DRUM,REAR BRAKE 14-1/2 BAL
217 COOLER,EGR SQUARE WINTEGRAL	263 END ASM,RH TIE ROD
218 COOLER,EXHAUST GAS RCN	264 END ASSY,TIE ROD
219 COOLER,EXHAUST GAS RCN HYBRID	265 END,DRAG LINK RH
220 CORE,COOLER	266 END,ROD 3/4" MALE LH REFRIG
221 COUPLING HALF,12MM BORE SST 4M	267 END,TIE ROD L/H
222 COUPLING INSERT, HYTREL	268 ENGINE STRUT, CURBSIDE
223 COUPLING,PLANETARY FINAL DRIVE	269 EQUALIZER,BATTERY
224 COVER, HINGE	270 EQUALIZER,BATTERY 80A
225 COVER,DOOR POST	271 EQUALIZER,BATTERY 80A N/FII
226 COVER,LUB OIL COOLER	272 EVAPORATOR FAN ASSY
227 COVER,RESEVOIR WASHER BOTTLE W	273 EXTR CHASSIS POST 4.72
228 CUP,INNER BEARING/FRONT WHEEL	274 EXTR, VERTICAL REAR SSLF ANODI
229 CUP,OUTER BEARING/FRONT WHEEL	275 EXTR.,A-POST,SSLF W/ANODIZED
230 DAMPER,SHORT STEERING W/SLEEVE	276 FITTING, ADJUSTABLE SST

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
277 FITTING, COUPLER 5/16"	323 KIT,BRAKE CHAMBER RH/LH FRT
278 FITTING, FLOOR CUP	324 KIT,BRAKE HARDWARE
279 FITTING,46MM	325 KIT,BRAKE PAD(INCL 18-19 21-26
280 FITTING,56MM	326 KIT,CLAMP CONTROL BKT SLACK
281 FITTING,GREASE 45 DEG M8X1MM	327 KIT,CLAMP CTRL ARM BRACKET
282 FITTING,STANCHION CUP	328 KIT,FRT BRAKE-MAJOR"CAST PLUS"
283 FLANGE,4 BOLT-10 MJIC	329 KIT,KING PIN
284 FLATWASHER	330 KIT,KING PIN KNUCKLE
285 GEAR ASSY,PLANETARY	331 KIT,KINGPIN
286 GEAR ASSY,STEERING	332 KIT,RADIUS ROD REPAIR
287 GEAR MOTOR,ASSY	333 KIT,ROLLER SERVICE
288 GEAR,SUN ASSY PLANETARY	334 KIT,SLACK ADJUSTER LH FRONT
289 GEAR,SUN CURBSIDE	335 KIT,STEERING KNUCKLE REPAIR
290 GEAR,SUN STREETSIDE	336 KIT,STRIKER
291 GOVERNOR ASSY	337 KIT,TENSIONER BELT AUTOMATIC
292 HARDWARE KIT,SHOCK ABSORBER	338 KIT,UNIVERSAL JOINT DRIVE
293 HARDWARE,AISLE & FORWARD FACE-	339 KIT,WATER PUMP
294 HEAD ASSY,LH	340 KNUCKLE ASM,LH
295 HEAD ASSY,RH	341 KNUCKLE ASSY,STEERING LH
296 HEAD,CYLINDER	342 KNUCKLE ASSY,STEERING LH W/ARM
297 HEAD,FUEL PUMP	343 KNUCKLE ASSY,STEERING RH
298 HEAD,LUB OIL FILTER	344 KNUCKLE ASSY,STEERING RH W/ARM
299 HEAD,WATER FILTER	345 KNUCKLE,STEERING ASSY STREET
300 HEX SOC HD SHOULDER SCREW SET	346 KNUCKLE,STEERING CURBSIDE
301 HINGE ASM,BELT GUARD	347 KNUCKLE ASM, LH
302 HINGE ASSY	348 LINK ASSY,FRONT LEVELING VALVE
303 HINGE PIN	349 LINK ASSY,FRT LEVELING VALVE
304 HINGE, ACCESS DOOR	350 LINK ASSY,LEVELING REAR C/S
305 HINGE, DOUBLE	351 LINK ASSY,LEVELING REAR R/S
306 HINGE, SCISSOR CURBSIDE	352 LINK ASSY,REAR LEVELING VALVE
307 HINGE, SCISSOR STREETSIDE	353 LINK,CENTER FRONT AXLE
308 HINGE,FUEL FILL ACCESS DOOR	354 LINK,DRAG ASSY
309 HINGE,SKIRT LH 77"	355 LOCK ASM,5/16" SQUARE KEY
310 HINGE,SKIRT PANEL 65"	356 LOCK,CURBSIDE W/C/L
311 HINGE,SKIRT RH 117"	357 LOCKNUT,HXHD 7/8-14 GR8
312 HOLD DOWN,BATTERY	358 LOCKNUT,NYLON INSERT,LT8-32SST
313 HUB & BEARING ASSY W/PULSE WHL	359 LOCKNUT,SPANNER
314 HUB ASM,REAR W/CUPS & STUDS	360 MANDREL, GUIDE & PRESS
315 HUB ASSY,REAR	361 MANDREL, KING PIN PRESS IN
316 HUB,FRONT AXLE	362 MANDREL, PRESSING
317 HUB,REAR AXLE	363 MANDREL, SHORT W/MAGNET
318 HUB/CUP,FRONT ASSY	364 MANDREL,KING PIN CAP INSTALLAT
319 KEY, SQUARE 3/16" X 3/4" LG	365 MANIFOLD,ASSY
320 KEY,PANEL ACCESS TOOL	366 MECHANISM ASSY, 32"WHLCHR RAMP
321 KEY,WAY FAN DRIVE MOTOR	367 MOUNT ASSY, FORE
322 KIT EXH RCN COOLER	368 MOUNT ASSY,BOLT BAR REAR SHOCK

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
369 MOUNT ASSY,ENGINE REAR CURB	415 NUT,SLOTTED 1.250"-12,STEERING
370 MOUNT ASSY,FAN	416 NUT,SLOTTED INNER
371 MOUNT ASSY,LH FORE/RH REAR	417 NUT,SLOTTED M100 X 1.5
372 MOUNT ASSY,LH REAR/RH FORE	418 NUT,SLOTTED OUTER
373 MOUNT ASSY,RADIUS ROD	419 NUT,STOVER M20 X 2.5
374 MOUNT,CENTER BOND NEO	420 NUT,TURBO MOUNTING
375 MOUNT,ENGINE FRONT	421 NUT,WHEEL BEARING INNER FRONT
376 MOUNT,ENGINE REAR	422 NUT,WHEEL CAPPED ALUMINUM FRT
377 MOUNT,RADIATOR	423 NUT,WHEEL CAPPED ALUMINUM REAR
378 MOUNTING ASSY, STEERING DAMPER	424 NUT,WHEEL REAR
379 MUFFLER ASM,SCR,24V NOX SENSOR	425 OERATOR PNEUMATIC MOTOR FRT DR
380 NIPPLE, 1" PT X 8 1/2" LG	426 OUTER,SPACER ASSEMBLY INCI 7X8
381 NIPPLE,GREASE	427 OUTRIGGER, W/RAD MTG REAR
382 NIPPLE,LUBRICATION HYDRAULIC	428 PAN,OIL
383 NUT ASSY,WHELL FRONT	429 PANEL ASM, REAR CUP SD UPR LH
384 NUT, CASTLE M12 X 1.5	430 PANEL ASSY,CIRCUIT BOARD
385 NUT, HEX LOCK 1-14	431 PANEL ASSY,EX DR MULTI CONT G3
386 NUT, HUB	432 PANEL ASSY,RH SIDE UPPER REAR
387 NUT, LOCKING	433 PANEL LOWER RH CENTER
388 NUT, SELF LOCKING	434 PANEL, ACCESS DOOR
389 NUT,3/8-16" SELF-LOCK	435 PANEL, LOWER CURBSIDE REAR
390 NUT,ACORN	436 PANEL, LOWER RH FRONT
391 NUT,CAP	437 PANEL, LOWER STREETSIDE FRONT
392 NUT,CAP W/S WIPER ARM (SHORT)	438 PANEL,ASM
393 NUT,CLAMPING FRT AXLE	439 PANEL,FIXED W/FUEL DOOR CUTOUT
394 NUT,DOUBLE HEX W/COLLAR	440 PANEL,FRANGIBLE EMERGENCY
395 NUT,FRT RAD ROD,DISC-LOCK ONLY	441 PANEL,INTERIOR LH REAR
396 NUT,HEX JAM 1 1/4"- 12 UNF	442 PANEL,INTERIOR SIDEWALLS
397 NUT,HEX JAM 3/4-16 UNF REFRIG	443 PANEL,LH DRIVER'S
398 NUT,HEX LOCKS M25 X 1.5	444 PANEL,LOWER LH CENTER
399 NUT,HEX M8-8 REAR SLACK ADJUST	445 PANEL,LOWER LH REAR
400 NUT,HEX STEERING KNUCKLE	446 PANEL,LOWER RH CENTER 3900
401 NUT,HEXAGON FLANGE	447 PANEL,LOWER RH REAR 3900
402 NUT,HEXAGON FLANGE M10X1.50	448 PANEL,MODESTY EXIT
403 NUT,JAM 3/4 LH REFRIG COMPR	449 PANEL,REAR RH WH
404 NUT,LOCK	450 PANEL,RELAY CONTROL
405 NUT,LOCK M18	451 PANEL,SIDE CONSOLE FRAME
406 NUT,LOCK SPIDER AXLE	452 PANEL,SKIRT
407 NUT,LOW CROWN 3/8'X24UNC	453 PANEL,SKIRT 77.78"
408 NUT,OUTER 1 3/4" 12UNC FRONT	454 PANEL,SKIRT 82.15"
409 NUT,PLANETARY GEAR DRIVE	455 PANEL,SKIRT CS#6 FILTER ACCESS
410 NUT,PLANETARY GEAR DRIVE ASSY	456 PANEL,SKIRT FIXED CURBSIDE
411 NUT,PLATE COBOLT M8	457 PANEL,SKIRT FIXED STREETSIDE
412 NUT,RADIUS ROD LOCK M2.4 X 1.5	458 PANEL,SKIRT REAR WHEELWHEEL ST
413 NUT,SLEEVE #10-32 UNF	459 PANEL,SKIRT SS#7 RADIATOR ACC-
414 NUT,SLEEVE PH 1/4"-20 UNC SST	460 PIGTAIL, MANIFOLD AIR TEMP GM

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
461 PILLAR,AL RR LH	507 PLUG,TRANSMISSION OIL PAN
462 PILLAR,AL RR RH	508 PLUNGER, PRS REQUULATOR
463 PILLAR,CORNER LOWER CURBSIDE	509 PLUNGER,PRS REGULATOR
464 PILLAR,CORNER LOWER STREESIDE	510 POST, EXTERIOR #2 RH
465 PILLAR,LEFT SIDE	511 POWER STRG PUMP ASSY, W/FITTIN
466 PILLAR,REAR LOWER,LEFT W/4HOLE	512 PRESSING ADAPTER
467 PILLAR,RIGHT SIDE	513 PRESSING, ADAPTER
468 PILLER,REAR LOWER,RH W/4 HOLES	514 PROPORTIONAL VALVE ASSY,HP
469 PIN, CONNECTING LMG	515 PULLEY ASSY,ENGINE
470 PIN, DOWEL	516 PULLEY, ACCESSORY DRIVE
471 PIN,BRAKE SHOE ANCHOR FRT	517 PULLEY, FAN
472 PIN,BRAKE SHOE ANCHOR REAR	518 PULLEY,ALTERNATOR CUMMINS ENG.
473 PIN,CLEVIS	519 PUMP ASSY, RAMP
474 PIN,REAR BRAKE SHOE ANCHOR	520 PUMP ASSY,BOOSTER
475 PIN,SLACK ADJUSTER	521 PUMP ASSY,FAN DRIVE
476 PIN,SPRING 3/8' X 1 1/2" ZINC	522 PUMP ASSY,RAMP W/C/L
477 PIN,TREADLE	523 PUMP ASSY,WATER N/F
478 PIVOT ASSY, AFT	524 PUMP, WINDSHIELD WASHER
479 PIVOT ASSY, LOWER	525 PUMP,LUB. OIL
480 PIVOT RAMP ASSY, RH	526 PUMP,POWER STEERING ASSY
481 PIVOT,DOOR ENTRANCE/EXIT ASSY	527 PUMP,WASHER BOTTLE 12V
482 PIVOT,PLATE	528 PUSH BUTTON ASSY
483 PLATE GUARD LEFT UPPER	529 PUSH BUTTON,ENGINE START
484 PLATE GUARD LOWER LF/RT UPPER	530 RACK,BIKE ASSY DL2 S/S W/KIT
485 PLATE, DASH MOUNTING	531 RADIUS ROD ASSY - UPPER
486 PLATE, DETENT # 1	532 RADIUS ROD, LOWER REAR
487 PLATE, DETENT #2	533 RADIUS ROD, UPPER REAR
488 PLATE, NUT REAR BUMPER MTG	534 RADIUS ROD,ASSY LOWER
489 PLATE,COVER	535 RADIUS ROD,FRONT
490 PLATE,COVER BATTERY TRAY	536 RAIL TOP, SEAT MOUNTING RH
491 PLATE,DOVETAIL EXTERIOR MIRROR	537 RAMP ASSY,32"
492 PLATE,LOCK MOUNTING	538 RAMP CONTROL BOX ASSEMBLY
493 PLATE,LOCK PLANETARY FINAL	539 RAMP,HINGE WHEELCHAIR SR-1895
494 PLATE,SHIM W/C/L	540 RAMP,LATCH HINGE ASSY
495 PLUG ASSY,THREADED W/SEAL	541 RAMP,MECHANISM ASSY W/C/L
496 PLUG, THREADED	542 RAMP,WELDMENT
497 PLUG,DIFF DRAIN &FILL MAGNETIC	543 RECTIFER,DEFROSTER/HEATER
498 PLUG,DIFF DRAIN &FILLM24X1.5	544 REGULATOR ASSY,VOLTAGE 24V
499 PLUG,DRAIN & FILL	545 REGULATOR, VOLTAGE
500 PLUG,LUBE MAG M24X1.5 METIC	546 REGULATOR,AIR PRESSURE 23PSI
501 PLUG,MAGNETIC	547 REGULATOR,AIR TANK
502 PLUG,MAGNETIC-AXLE DRAIN REAR	548 REGULATOR,V 50VR REMY,24V
503 PLUG,PLANETARY FINAL DRIVE	549 ROD ASSY,END MALE W/FITTING
504 PLUG,THREADED	550 ROD ASSY,RADIUS LOWER REAR
505 PLUG,THREADED CUMMINS BE63	551 ROD ASSY,RADIUS REAR LWR.
506 PLUG,THREADED ENGINE OIL PAN	552 ROD END,3/4" MALE RH REFRIG

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
553 ROD, RADIATOR BRACE	599 SCREW,HEX FLANGE HAD CUP
554 ROD,FRONT RADIUS	600 SCREW,HEX FLANGE HEAD CAP
555 ROD,RADIUS UPPER REAR	601 SCREW,HEX FLANGE SCREW
556 ROD,RADUIS UPPER REAR	602 SCREW,HEX HD MACH8-32,7/8"LSST
557 ROD,REAR LEVELING VALVE	603 SCREW,HEX HEAD CAP 3/4"-10LG.
558 ROD,THREAD FAN PUMP	604 SCREW,HEX LOCK M10 X 18
559 ROD,TORQUE LOWER FRONT	605 SCREW,HEX SOCK 1/4-20 5/8L
560 ROD,TORQUE LOWER REAR	606 SCREW,NUT CLAMPING FRT AXLE
561 ROD,TORQUE UPPER FRONT	607 SCREW,OIL LEVEL PLANETARY
562 ROD,TORQUE UPPER REAR	608 SCREW,PH CROSS RECESS
563 ROLLER,1 3/4" DIA BATTERY TRAY	609 SCREW,SELF ALIGNING FRONT DRUM
564 ROLLER,BRAKE SHOE	610 SCREW,SET# 10-32 UNF X 1/8" LG
565 ROLLER,GUIDE CLEVIS W/C/L	611 SCREW,SOCKET HEAD 3/8"X1 1/4"
566 ROLLER,TENSION	612 SCREW,SOCKET HEADCAP/FUEL PUMP
567 ROLLPIN,BRAKE TREADLE E-8P	613 SCREW,SPECIAL PLANETARY
568 ROTOR, BRAKE CENTER	614 SCREW,SPEICAL PLANETARY GEAR
569 ROTOR,BRAKE FRONT 17"	615 SCREW,STANCHION 1/4"-20X.87 SS
570 ROTOR,BRAKE REAR 17"	616 SCREW,STARTER 12 POINT CAP
571 SAFETY WALK, REAR CLAMP BAR BL	617 SCREW,STEERLING KNUCKLE
572 SCREW ASSY,PLANETARY DRIVE	618 SCREW,STOP 5/8"FINN SQUAREHEAD
573 SCREW, BUTTON HEX HD	619 SENDER,FUEL LEVEL
574 SCREW, FLAT HEAD	620 SENDER,FUEL LVL W/GA W/LOW LVI
575 SCREW, HEX FLANGE HEAD CAP	621 SENSOR, NITROGEN OXIDE (AFTER
576 SCREW, HEX SST 1/4 - 20 UNC	622 SENSOR, NITROGEN OXIDE (BEFORE
577 SCREW, HEXAGON FLANGE HEAD CAP	623 SHAFT ASSY,DRIVE
578 SCREW, LOCK M12 X1.5X 85MM LG	624 SHAFT ASSY,LH REAR AXLE
579 SCREW, LOCK M16 X 1.5 X 40 LG	625 SHAFT ASSY,RH REAR AXLE
580 SCREW, SDR ISOLATOR CAP	626 SHAFT ASSY,W/ARM ENT/EXIT #4
581 SCREW, SST 5/8" X 1" LG	627 SHAFT, REAR AXLE
582 SCREW, TORX CAP M22 X 1.5 X 75	628 SHAFT,DRIVE ASSY
583 SCREW,CAP HEX SOC 3/8-16,1/2L	629 SHAFT,REAR AXLE
584 SCREW,CAP M18X60MM	630 SHEAVE,5V-2 GROOVE FAN DRIVE
585 SCREW,CAP/FRONT BRAKE	631 SHIELD,DUST
586 SCREW,CAP/REAR WHEEL HUB	632 SHIELD,GLARE CURB LAMP
587 SCREW,CAPTIVE WASHER CAP	633 SHIELD,SPLASH
588 SCREW,CYLIND INTER. M22X1.5X90	634 SHIM,0.10 MM
589 SCREW,ENTRANCE DOOR	635 SHIM,0.20 MM
590 SCREW,EXHAUST MANIFOLD	636 SHIM,0.5 MM
591 SCREW,EXT TORX HD M16X1.5X100	637 SHIM,0.50MM
592 SCREW,FH CROSS RECESS	638 SHIM,1.00 MM
593 SCREW,FH CROSS RECESS SS 1/4"-	639 SHIM,1.50 MM
594 SCREW,FH CROSS RECESS SST #10-	640 SHIM,1.5MM
595 SCREW,FH CROSS RECESS SST 1/4"	641 SHIM,2.5MM
596 SCREW,FH THREAD CUT #10-32X1"L	642 SHIM,2MM
597 SCREW,HEX CAP SOCKET M10 X 16	643 SHIM,LF RAMP MECHANISM
598 SCREW,HEX FLANGE C/S PULLEY	644 SHOCK, FRT ABSORBER ASSY 2-8

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description		Description	
645	SLACK ADJUSTER,FRONT LH	691	STARTER,DELCO 42MT CLOCKED 24V
646	SLACK ADJUSTER,FRONT RH	692	STRAP ASSY,FUEL TANK
647	SLACK ADJUSTER,REAR R/S,C/S	693	STRAP,ASSY
648	SLEEVE, CENTERING	694	STRAP,BEARING
649	SLEEVE, INSTALLER	695	STRAP,LOCK
650	SLEEVE, PRESS-IN	696	STRAP,PULL UP W/C RAMP
651	SLEEVE,NEEDLE	697	STRUT ASSY, MDT MOUNTING
652	SLIDE, 240MM - SET	698	STRUT,ENGINE CRADLE LH/SS
653	SNAP RING	699	STRUT,REAR AXLE
654	SNAP,RING	700	STUD
655	SPACER	701	STUD,AIR COMPRESSOR
656	SPACER ASM,OUTER	702	STUD,FUEL INJECTION PUMP
657	SPACER TUBE	703	STUD,REAR/WHEEL HUB
658	SPACER, 0.281 I.D. X 1.25 OD	704	STUD,RH THREAD
659	SPACER, WHEELCHAIR RAMP	705	STUD,RH TREAD/FRONT WHEEL HUB
660	SPACER,EXHAUST MANIFOLD MOUNTI	706	STUD,TURBO MOUNTING
661	SPACER,MOUNT	707	STUD,TURBOCHARGER
662	SPACER,RADUIS ROD MOUNTING R	708	STUD,TURBORCHARGER
663	SPACER,ROD END TURNBUCKLE REFR	709	STUD,WHEEL 7/8-14
664	SPIDER ASM, FRONT BRAKE LH	710	STUD,WHEEL FRONT HUB
665	SPIDER ASM,FRONT BRAKE RH	711	STUD,WHEEL MOUNTING M22X1.5X65
666	SPIDER ASSY,BRAKE FRONT	712	STUD,WHEEL REAR
667	SPIDER ASSY,BRAKE FRONT LH	713	SUPPORT AIR SPRING RH
668	SPIDER ASSY,BRAKE FRONT RH	714	SUPPORT,CHANNEL
669	SPIDER ASSY,BRAKE REAR	715	SUPPORT,FUEL PUMP
670	SPIDER ASSY,PLANETARY DRIVE	716	SUPPORT,FUEL PUMP MOUNTING
671	SPIDER ASSY,REAR BRAKE	717	SUPPORT,MOTOR
672	SPINDLE ASSY,AXLE HOUSING	718	SUPPORT,REAR
673	SPRING ASM GAS	719	SUSPENSION BEAM ASSY, LH
674	SPRING ASM,GAS	720	SUSPENSION BEAM ASSY,RH
675	SPRING, COMPRESSION	721	SUSPENSION,BUMPER
676	SPRING,AIR FRONT	722	TANK,MUFFLER AIR DRYER
677	SPRING,AIR REAR	723	TEE,1 5/16" X #16 JICX#12 JIC
678	SPRING,FRONT AIR	724	TEE,STREET 1/4"PT
679	SPRING,PRESSURE	725	TENSIONER,BELT
680	SPRING,REAR AIR	726	TENSIONER,BELT ALTERNATOR ASSY
681	SPRING,RETURN	727	TENSIONER,BELT GROOVED INSIDE
682	SPRING,RETURN BRAKE SHOE	728	TENSIONER,BELT SMOOTH
683	SPRING,TENSION	729	TENSIONER,WATER PUMP
684	SPROCKET ASSY,CURBSIDE	730	T-HANDLE
685	SPROCKET, SST 1/2P(#40) 9T 1/2	731	TIE ROD ASM, W/ENDS
686	STANCHION, EXIT SS	732	TORQUE,ADAPTER,TX100
687	STAND OFF	733	Total number of items in category
688	STARTER ASM,DELCO 39MT,24V	734	TUBE ASSEMBLY,DISCHARGE-16
689	STARTER,DELCO 42MT 24V	735	TUBE ASSY
690	STARTER,DELCO 42MT 24VOLT	736	TUBE ASSY SUPPLY

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description	Description
737 TUBE ASSY,BYPASS	783 VALVE ASSY,CHECK FL 1/4 PIPE
738 TUBE ASSY,OIL COOLER FILLER	784 VALVE ASSY,DISCHARGE SERVICE
739 TUBE PRESSURE SENSING	785 VALVE ASSY,DOUBLE CHECK
740 TUBE, DRAIN SPOUT	786 VALVE ASSY,EMER BRK RELEASE
741 TUBE, FUEL DRAIN	787 VALVE,AIR COCK EMERG RELEASE
742 TUBE, OIL LEVEL GAUGE	788 VALVE,AIR SUPPLY
743 TUBE,CAC INLET ENGINE	789 VALVE,BRAKE RELAY
744 TUBE,CAC REAR	790 VALVE,EXH GAS RCN
745 TUBE,COMPRESSOR WATER INLET	791 VALVE,FREON 24V SUTRAK A/C
746 TUBE,COPPER 3/4 "OD"	792 VALVE,LEVELING FRONT
747 TUBE,COPPER 3/4" O.D.	793 VALVE,MAG DOOR OPERATOR
748 TUBE,CPR WATER INLET	794 VALVE,PARKING BRAKE CONTROL
749 TUBE,CPR WATER OUTLET	795 VALVE,PRESSURE RELIEF
750 TUBE,CROSS ASSY FRONT AXLE	796 VALVE,PUMP RELIEF
751 TUBE,CROSS ASSY REAR AXLE	797 VALVE,PURGE ASSY KIT AIR DRYER
752 TUBE,EXHAUST	798 VALVE,QUICK RELEASE QRN-2
753 TUBE,EXHAUST COOLER WATER OUTL	799 VALVE,RELAY R-12 DC 5.5 PSI
754 TUBE,FILLER TRANSMISSION	800 VALVE,RELIEF ASSEMBLY
755 TUBE,FORMED MULTIPLE	801 VALVE,RETARDER CONTROL
756 TUBE,FRONT BRAKE CHAMBER	802 VALVE,ROTARY DUMP
757 TUBE,FUEL DRAIN	803 VALVE,SAFETY
758 TUBE,FUEL SUPPLY	804 VALVE,SAFETY 200 PSI
759 TUBE,INJECTOR FUEL	805 VALVE,SCR SYSTEM 24V
760 TUBE,INJECTOR FUEL #1 CYLINDER	806 VALVE,SHUT OFF,1/4"MPT
761 TUBE,INJECTOR FUEL #2 CYLINDER	807 VALVE,SINGLE CHECK
762 TUBE,INJECTOR FUEL SUPPLY FROM	808 VALVE,SOLENOID ENT DOOR
763 TUBE,LAB OIL DRAIN	809 VALVE,SOLENOID LINE
764 TUBE,OIL FILLER	810 VALVE,SPRING BRAKE CONT
765 TUBE,OIL GAUGE	811 VALVE,SR-7 SPRING BRK CONTROL
766 TUBE,POWER STEER'G REAR SUPPLY	812 VALVE,SYNCHRO AIR DRYER
767 TUBE,PRESSURE SENSING	813 VALVE,WATER FILTER-HOSE
768 TUBE,SUPPLY	814 VALVE-DUMP,ENTR DOOR
769 TUBE,TURBO OIL SUPPLY	815 WASHER
770 TUBE,WATER TRANSFER	816 WASHER FLAT 3/8"
771 TURNBUCKLE, TENSIONING	817 WASHER, FLAT 1/4" SST
772 TURNBUCKLE,TENSIONING	818 WASHER, SEALING-20
773 TURNBUCKLE,TENSIONING REFRIGER	819 WASHER, THRUST
774 U-BOLT,LONG AXLE	820 WASHER,188"ID.375OD036-.065THK
775 VALVE ASM,BRAKE TREADLE E-8P	821 WASHER,ANCHOR PIN
776 VALVE ASM,FAN & P/S CONTROL	822 WASHER,FLAT
777 VALVE ASSY COMPLETE, E6 BRAKE	823 WASHER,FLAT .03" THICK BRAKE
778 VALVE ASSY RELEASE	824 WASHER,FLAT .12" THICK BRAKE
779 VALVE ASSY, RELAY R-14	825 WASHER,FLAT FRONT WHEEL HUB
780 VALVE ASSY, SOLENOID 12V	826 WASHER,FRONT BEARING
781 VALVE ASSY,BRAKE E-10	827 WASHER,FRONT OUTER AXLE
782 VALVE ASSY,BRAKE RELAY	828 WASHER,LOCK

APPENDIX C: ITEMS MMD ISSUED TO VMD WHICH SHOULD GENERATE REVENUE

Description		Description	
829	WASHER,LOCK/FRONT WHEEL HUB	842	WASHER,SPECIAL REAR BRAKE
830	WASHER,LOCKING KIT	843	WASHER,THRUST
831	WASHER,OIL LEVEL PLANETARY	844	WASHER,THRUST FRT AXLE
832	WASHER,RADIUS ROD	845	WASHER,THRUST PLANETARY FINAL
833	WASHER,REAR SLACK ADJUSTER	846	WATER PUMP (1500)
834	WASHER,S-CAM	847	WHEEL HUB, REAR
835	WASHER,SEAL FUEL PUMP TRANSFER	848	YOKE ASSY, 14 MM
836	WASHER,SEALING	849	YOKE ASSY,DIFFERENTIAL CARRIER
837	WASHER,SEALING OIL PAN PLUG	850	YOKE ASSY,REAR AXLE
838	WASHER,SNUBBING	851	YOKE ASSY,TRANS B400 HALF 4100
839	WASHER,SPACE	852	YOKE ASSY,TRANSMISSION
840	WASHER,SPACER	853	YOKE,CLEVIS BRK CHAMBER FRT
841	WASHER,SPECIAL FRONT BRAKE	854	YOKE,TRANSMISSION