

United States Government Accountability Office Washington, DC 20548

March 7, 2013

Congressional Requesters

Subject: Use of Remanufactured Parts in the Federal Vehicle Fleet Is Based On a Variety of Factors

In fiscal year 2011, federal civilian agencies reported about \$975 million in maintenance and repair costs for approximately 588,000 vehicles that the agencies owned. These vehicles can be maintained and repaired using new or remanufactured parts. While there is no standard definition of a remanufactured vehicle part, the Federal Acquisition Regulation defines remanufactured parts as factory rebuilt to original specifications.² Remanufactured vehicle parts tend to be less expensive than comparable new parts. The principal remanufactured products in the motor vehicle sector are engines, transmissions, starter motors, alternators, steering racks, and clutches, according to the U.S. International Trade Commission.3

Given the potential for cost savings from using remanufactured parts in the federal fleet, you asked us to examine this issue. Thus, this report describes (1) the vehicle repair process for selected agencies, including the use of remanufactured parts, and (2) the factors that agency officials consider when deciding whether to use new or remanufactured parts for repairs.

To perform our work, we reviewed the General Services Administration (GSA), the U.S. Postal Service (USPS), and the Departments of Agriculture (USDA), Homeland Security (DHS), the Interior (DOI), and Justice (DOJ). These six federal entities accounted for 95 percent of the civilian federal fleet vehicles in 2011. Because the four departments decentralize fleet management to their component agencies, we selected three agencies within each department with large fleets. In total, we selected 14 agencies for our review:

- GSA;
- USPS;
- USDA
 - U.S. Forest Service,
 - Animal and Plant Health Inspection Service, and
 - Natural Resources Conservation Service;
- DHS

Customs and Border Protection,

Immigration and Customs Enforcement, and

¹ Agencies annual maintenance and repair costs are published in the Federal Fleet Report. The General Services Administration provided GAO with its fiscal year 2011 maintenance and repair costs for the GSA Fleet.

² Federal Acquisition Regulation §52.211-5.

³ U.S. International Trade Commission, Remanufactured Goods: An Overview of the U.S. and Global Industries, Markets, and Trade, Investigation No. 332-525, USITC Publication 4356 (October 2012).

- Federal Emergency Management Agency (FEMA);
- DOI
- Fish and Wildlife Service,
- National Park Service, and
- Bureau of Land Management; and
- DOJ
 - Federal Bureau of Investigation (FBI),
 - o Drug Enforcement Administration, and
 - o U.S. Marshals Service.

We reviewed laws, regulations and agency documents related to vehicle fleet management, maintenance, and repair, including the Federal Management Regulation on Motor Vehicle Management; fleet management manuals and guidance of individual federal agencies; and the Federal Fleet Report for fiscal year 2011, which summarizes fleet data submitted by agencies and reported to Congress. To gain a better understanding of the remanufacturing industry, we attended an October 2012 conference on vehicle parts remanufacturing sponsored by the Motor and Equipment Remanufacturers Association (MERA) and toured the factory of a MERA member that remanufacturers alternators, starters, and generators. To obtain information from agency and commercial garages, we conducted site visits at a USPS maintenance facility, a GSA Maintenance Control Center (MCC) in Texas, and a commercial facility that services GSA-leased vehicles. At one MCC, we interviewed officials and listened to calls between GSA repair technicians and vendors who were requesting purchase orders for government vehicles that had been brought for repair or maintenance. We chose these sites based on their proximity to GAO offices. The information collected from these interviews and a non-probability sample of site visits is not generalizable to all agency maintenance facilities or commercial garages but provided insights about the process of making vehicle repair decisions. We interviewed officials responsible for the vehicle fleet at the 14 selected agencies.

We conducted this performance audit from August 2012 to March 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Summary

The 14 agencies we reviewed have vehicle repair processes that generally allow field office staff, such as the vehicle operator or local fleet manager, to make vehicle maintenance and repair decisions. These processes neither mandate nor prohibit the use of remanufactured parts. The agencies we reviewed generally do not keep data on the extent to which remanufactured parts are used. Agency officials from the 14 agencies in our review said that they use remanufactured parts when warranted, and we observed the presence of remanufactured parts in the stock rooms during our visits to repair facilities. Deciding when to use remanufactured parts, according to agency officials and related guidance, depends on a number of factors including the cost, availability, and reliability of the part. According to agency officials, these factors are considered on a case-by-case basis for each repair to yield the best value for the federal government.

⁴ The Federal Fleet Report is updated annually and available on GSA's website at http://gsa.gov/portal/category/102859.

Background

Despite the common use of the term "federal fleet," there is no single entity responsible for managing all of the approximately 588,000 vehicles that federal civilian agencies own. Instead, each agency is responsible for managing its own fleet. Agencies may own vehicles or lease them from GSA Fleet⁵ or the commercial sector. Although some federal agencies, such as USPS, may have a single, centralized fleet of vehicles, the fleets of other agencies, such as the four departments in our review, are decentralized and dispersed among multiple sub-agencies, bureaus, or divisions. See table 1 for more information on each of these agencies' fleets.

Table 1: Characteristics of the Largest Civilian Agency-Owned Vehicle Fleets for Fiscal Year 2011

Selected agencies	Agency-owned fleet inventory ^a		Average age ^b
GSA Fleet-leasing program	199,729		3.5 ^c
U.S. Postal Service	209,684		16.3
Department of Agriculture	36,183		5.2
U.S. Forest Service		18,559	
Natural Resources Conservation Service		9,184	
Animal and Plant Health Inspection Service		4,742	
Department of Homeland Security	48,917		4.0
Customs and Border Protection		27,216	
Immigration and Customs Enforcement		13,274	
Federal Emergency Management Agency		1,062	
Department of Justice	38,787		4.4
Federal Bureau of Investigation		18,968	
Drug Enforcement Administration		6,974	
U.S. Marshals Service		4,573	
Department of the Interior	23,844		6.8
Fish and Wildlife Service		6,860	
National Park Service		6,839	
Bureau of Land Management		3,902	
Total selected agencies	557,144		
Remaining civilian agencies	31,137		
Total	588,281		

Source: GAO analysis of 2011 Federal Fleet Report and data reported to FAST by agencies.

^a Inventory for USPS and the four departments includes only agency-owned vehicles, not commercially leased and GSA-leased vehicles. The GSA Fleet inventory includes vehicles leased to both civilian and military agencies. We included the vehicles leased to military agencies because the vehicles are owned by GSA.

^b Average age is only for agency-owned vehicles, not the agency's commercially leased or GSA-leased vehicles.

[°] This number is approximate. The actual average age is 3.45 but we rounded to 3.5 years.

⁵ GSA Fleet is a vehicle-leasing program for federal agencies, and maintenance and repair are managed by GSA.

GSA's Office of Government-wide Policy establishes fleet management policies for the federal government and issues guidance to help agencies manage their fleets effectively and meet federal requirements. GSA issues guidance primarily through its *Guide to Federal Fleet Management*. According to the *Guide*, "the challenge of any fleet maintenance process is to mix the principal requirements for achieving fleet maintenance—facilities and equipment, mechanic labor, parts, cross-sharing, and commercially contracted or outsourced services—in order to maximize vehicle reliability, safety, availability, and operating performance while minimizing labor, parts, and contracted service expenditures." Decisions about vehicle repair are one aspect of the fleet maintenance challenge.⁶

Vehicle Repair Decisions Are Decentralized and May Include Use of Remanufactured Parts

The fleet management policies and guidance of the 14 selected agencies generally give local field offices the decision-making responsibilities for vehicle maintenance and repair. Decision-making within the repair process is typically delegated to the vehicle operator, local field office, or fleet manager. Departmental and agency-level policies provide guidance to help local officials manage their fleets; however, the policies neither mandate nor prohibit the use of either remanufactured or new replacement parts.

Field staff of the selected agencies generally follow a common repair process for their agency-owned vehicles⁷—a process similar to the one individuals follow when repairing a personally-owned vehicle, as described below. A major decision point within the repair process is tied to whether a vehicle is covered by the manufacturer's warranty. Also, field staff may have the opportunity to choose whether new or remanufactured parts are used.

- Identify vehicle problems: When a vehicle operator has a problem with the assigned vehicle, the operator takes it to a garage, either an in-house, agency-owned garage or a commercial garage. A mechanic may also find a problem during regularly scheduled preventive maintenance or other repairs.
- Vehicle warranty in effect: If the vehicle is under the manufacturer's warranty, the field staff are to generally take the vehicle to a dealership or a garage that is authorized to perform warranty work in order to maintain the vehicle's warranty and have the work performed at no cost to the government. Manufacturer's warranties specify what types of repairs are covered. Some warranties allow the dealerships and authorized garages to use remanufactured parts for repairs. For example, one agency provided us with the warranties for three of its vehicles, and we found all of them allowed the use of remanufactured parts.
- Vehicle warranty has expired: If the vehicle manufacturer's warranty has expired, the garage is
 to determine what repairs are needed and give the operator a repair estimate. If the garage is
 in-house, the mechanic or other agency staff may choose new or remanufactured replacement
 parts.⁸ If a commercial garage is used for repair, the garage may provide field staff the
 opportunity to choose a new or remanufactured replacement part.
- **Approval of repair work:** The operator or a supervisor reviews the estimate and approves the repair work. Agencies impose thresholds on the dollar amount of repair estimates, which, if

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⁶ We are currently examining agencies' overall efforts to manage their vehicle fleets and expect to issue the results of our review later this year.

⁷ For vehicles that agencies lease from GSA Fleet, GSA Fleet provides maintenance and repairs, among other services.

⁸ According to agencies with in-house garages, with the exception of USPS, these garages do not stock inventories or they stock limited inventories that include items such as oil filters, brake pads, hoses, belts, and inventories may include remanufactured parts. However, these agencies generally obtain parts from available sources on an as needed basis.

USPS's in-house garages maintain inventories that include both new and remanufactured parts.

exceeded, must be approved by a supervisor or another agency official. The threshold varies among agencies. For example, commercial garages servicing GSA Fleet vehicles call GSA's MCC for approval of repairs over \$100. The Drug Enforcement Administration's supervisory approval threshold is \$250. DHS's Immigration and Customs Enforcement and FEMA, for example, require supervisory approval for repairs over \$2,500, and some other agencies do so for repairs over \$3,000.

• The garage performs the repair, returns the vehicle to the operator, and the agency pays the bill.

Some agencies have in-house garages, such as USPS, FBI, and DHS's Customs and Border Protection; however, they may use commercial garages for some maintenance and repair work. Other agencies, such as GSA, use commercial garages for all, or almost all, of their maintenance and repair needs. For agencies that use both in-house and commercial garages for vehicle repairs, the decision to use a commercial or in-house garage is affected by factors such as the proximity of the vehicle to an in-house garage, the workload of the in-house garage, and whether a vehicle is under the manufacturer's warranty.

Agency officials from all 14 agencies told us that they use remanufactured parts to maintain and repair their vehicle fleets, including starters, alternators, brake calipers, engines, and transmissions. While the agencies track maintenance costs for vehicles in their inventory, officials from 13 agencies—all except GSA—said they do not keep data on the extent to which they use remanufactured parts. GSA officials stated that GSA Fleet tracks the number of remanufactured parts used, but its information system understates the number because commercial vendors do not always indicate if a part is remanufactured. According to GSA officials, GSA is working to improve its data collection efforts by reviewing the information system's coding list to ensure its accuracy. Officials also stated that GSA is requiring additional training for its MCC employees to help ensure that when they enter data on repairs, they capture information on the use of remanufactured parts. Officials at the GSA MCC we visited told us that remanufactured parts, if used, were included in the coding list under "rebuilt." 10

The opportunity to use more remanufactured parts increases as vehicles age and vehicle parts begin to wear out. This opportunity differs significantly for the two largest fleets in our review—USPS and GSA Fleet—which collectively account for about 70 percent of the vehicles owned by civilian agencies. As was shown in table 1, USPS, with close to 210,000 vehicles in 2011, has the oldest average age of vehicles at 16.3 years. According to officials, USPS uses many remanufactured parts to maintain and repair its vehicles, particularly transmissions and engines. Figure 1 shows an example of a remanufactured transmission being removed from a common USPS vehicle; it is to be replaced with another remanufactured transmission. On the other hand, GSA officials stated that because GSA Fleet's 200,000 vehicles are relatively young, averaging about 3.5 years, they require few repairs and rarely require expensive repairs, such as replacing engines or transmissions.

⁹ Brake calipers squeeze the brake pads against the surface of the brake rotor to slow or stop the vehicle.

¹⁰ MCC officials stated that relatively few calls involve rebuilt or remanufactured parts. For example, officials told us that on January 8, 2013, 15 out of 1,037 purchase orders that day were coded under rebuilt.

¹¹ Many of USPS's delivery vehicles are custom-built to USPS specifications.

Figure 1: A Removed Remanufactured Transmission at a USPS Vehicle Maintenance Facility

Source: GAO.

Agencies Consider Multiple Factors When Deciding Whether to Use New or Remanufactured Parts

Agency officials from the 14 selected agencies stated that field staff consider a number of factors when deciding whether to use new or remanufactured parts and do so on a case-by-case basis for each repair to yield the best value for the federal government. ¹² The factors include

- Availability of the part: Some parts may be immediately available while others could take days
 to arrive, a situation that could delay the vehicle's return to service and result in down-time for
 agency field staff.
- **Costs:** Agency officials said they consider the cost of the replacement part, the cost to ship it, and the cost of labor to install it. If the cost difference between a new and remanufactured part is small and the remanufactured part needs to be shipped, it could ultimately make the remanufactured part more expensive than a new part that does not require shipping.
- Expected remaining useful life of the vehicle: Agency officials said that they try to spend the least amount possible for a vehicle's repair if they know that they will soon dispose of the vehicle.
- Reliability of the part: Agencies rely on mechanics to use their personal experiences and knowledge to help inform their decisions on choosing the brands of remanufactured parts with which they have had the greatest success in the past.
- **Length of warranty:** The length of warranty for both new and remanufactured parts vary and may influence which replacement part is chosen.

¹² The U.S. International Trade Commission reported similar findings, stating that numerous factors affect the demand of remanufactured vehicle parts, including the age of the U.S. motor vehicle fleet, the cost and availability of substitute products, component reliability, vehicle warranties, and the degree of consumer's cost consciousness. U.S. International Trade Commission. *Remanufactured Goods: An Overview of the U.S. and Global Industries, Markets, and Trade,* Investigation No. 332-525, USITC Publication 4356 (October 2012).

Agency officials and commercial vendors provided several examples of using these factors to determine which parts to purchase. Cost of the part, of course, drives many decisions. In one example, a commercial vendor that works on GSA Fleet and other federal agency vehicles stated that when replacing an alternator for a Bluebird passenger bus, a remanufactured alternator cost about \$850 and came with a 12-month/12,000-mile warranty, whereas a new alternator cost about \$1,300 with a similar warranty. The commercial vendor chose the remanufactured alternator to repair the vehicle because of the part's lower cost and comparable warranty. In another example, a National Park Service official offered this scenario: If the Service needed an alternator for one of its fleet trucks and had a choice of either a remanufactured part for about \$135 with a non-transferable lifetime warranty or a new part that the vehicle manufacturer made for about \$426 with the manufacturer's warranty, the Service would choose the remanufactured part because it offered an acceptable warranty and significant cost savings. In yet another example, we listened to a telephone conversation in which a GSA MCC technician instructed a commercial vendor who was repairing a 2007 truck to use a remanufactured starter that cost about \$206, rather than a new starter that cost about \$360.

While several agency officials told us that the cost of a replacement part is an important factor in determining which type to use, they also stated that there are instances in which other factors, such as the cost of labor, part availability, remaining vehicle useful life, and part reliability can be more important. For example, officials from three agencies—USPS, GSA, and FBI—explained that if the installation of a relatively inexpensive part is expected to be labor-intensive, new parts are sometimes selected to avoid the cost associated with the risk of reinstalling the part if the remanufactured part fails prematurely. FEMA officials provided an example in which they stated that part availability is an important factor if the vehicle is critical to FEMA's mission or is a one-of-akind asset. If it takes three weeks to get a remanufactured part, but a new part is readily available, FEMA officials said they would purchase the new part, even if it were more expensive, to get the vehicle operational and back on the road as soon as possible. In an example related to remaining useful vehicle life, FBI officials discussed a repair scenario in which one of its vehicles had an expected remaining useful life of 6 years and needed its water pump replaced. In this case, they said that they would consider the replacement part's warranty and cost. If a new water pump cost \$92 and had a lifetime warranty, while a remanufactured water pump cost \$30 and had a 3-year warranty, then FBI officials would most likely select the new, more expensive water pump because of its lifetime warranty, extensive labor time associated with the repair, and the FBI's plan to use that vehicle for 6 more years. In an example of part reliability's importance as a factor, a GSA MCC technician and a commercial vendor agreed to replace an alternator in a 2003 passenger bus with a remanufactured alternator because remanufactured alternators for these vehicles are considered more reliable than new alternators.

While remanufactured parts tend to be less expensive than comparable new parts, some agency officials told us they have found instances in which new parts are less expensive than remanufactured parts or are very close in price. FBI officials provided us an example of a new alternator with a lifetime warranty that cost \$154 and a remanufactured alternator with a 3-year warranty that cost \$179. In another instance, Fish and Wildlife Service officials told us that they decided to use a new alternator when they found that it cost only \$5 more than the remanufactured alternator; the \$5 savings from using the remanufactured part would be lost to shipping fees once the replaced alternator was mailed back to the remanufacturer.¹³

¹³ When a vehicle is repaired, the old or failed part that was replaced is called a "core." A core charge is sometimes added to the cost of a replacement part and can be refunded to the customer when the failed part is sent back to the remanufacturer to begin the remanufacturing process.

Agency Comments

We provided a draft of this report to GSA, USPS, USDA, DOI, DHS, and DOJ for their review and comment. USPS and DOI provided written comments expressing their agreement with the findings of our report. USPS reiterated that it relies heavily on the remanufacturing industry to maintain its vehicle fleet. DOI stated that it actively seeks to control the costs of fleet maintenance and will continue to use remanufactured parts where they are the most cost-effective solution. USPS's and DOI's comments are reprinted in enclosures II and III, respectively. GSA, USDA, DHS, and DOJ had no comments.

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We are sending copies of this report to interested congressional committees, the Administrator of the General Services Administration, the Postmaster General, the Attorney General, and the Secretaries of Agriculture, Homeland Security, and the Interior. This report will also be available at no charge on the GAO Web site at http://www.gao.gov. If you or your staff have any questions about this report, please contact me at (202) 512-2834 or stjamesl@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are John W. Shumann (Assistant Director), Melissa Bodeau, Jennifer Clayborne, Laura Erion, and Sam Hinojosa.

Lorelei St. James

Director

Physical Infrastructure Issues

Youler Spames

Enclosures - 3

Enclosure I: List of Requesters

The Honorable Rob Portman
Ranking Member
Subcommittee on the Efficiency and Effectiveness of Federal Programs and the Federal Workforce
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Sherrod Brown United States Senate

The Honorable Dan Coats United States Senate

The Honorable James Inhofe United States Senate

The Honorable Carl Levin United States Senate

The Honorable Debbie Stabenow United States Senate

The Honorable Tom Cole House of Representatives

The Honorable Gregg Harper House of Representatives

The Honorable James Lankford House of Representatives

The Honorable Billy Long House of Representatives

The Honorable Gary Peters House of Representatives

The Honorable Todd Rokita House of Representatives

The Honorable Dennis Ross House of Representatives EDWARD F.PHELAN
VICE PRESIDENT
DELIVERY AND POST OFFICE OPERATIONS



February 21, 2013

Ms. Lorelei St. James Director, Physical Infrastructure Issues U.S. Government Accountability Office 441 G. Street, NW Washington, DC 20549-0001

Dear Ms. St. James:

Thank you for the opportunity to provide comments to the Government Accountability Office (GAO) report titled Use of Remanufactured Parts in the Federal Vehicle Fleet.

We request that our comments be included as an appendix to the report.

We would like to commend you and your team on their professional and thorough review of Federal policies and practices as well as the remanufacturing industry. In general, we agree with the information stated in this report in the areas applicable to the U.S. Postal Service (USPS).

The USPS relies heavily on the remanufacturing industry to sustain our vehicle fleet in a cost effective manner while reducing the consumption of our natural resources. The use of remanufactured components in the maintenance of our fleet will continue to be a corporate objective for the USPS.

Sincerely.

Edward F. Phelan (

475 L'ENFANT PLAZA SW WASHINGTON DC 20260-7017



United States Department of the Interior

OFFICE OF THE SECRETARY Washington, DC 20240

FEB 20 2013

Lorelei St. James, Director Physical Infrastructure Issues U.S. Government Accountability Office 441 G Street, NW Washington, DC 20548

Dear Ms. St. James:

The Department of the Interior (DOI) appreciates the opportunity to review and comment on the Government Accountability Office (GAO) draft report, *GAO Report on Remanufactured Parts in the Federal Fleet* – 544182 (Report no. GAO-13-316R). The decision to use remanufactured parts is dependent on many factors including the availability and reliability of parts, associated costs, and performance. Independent vehicle service providers and mechanics also play a crucial role in the use of remanufactured parts.

The Department concurs with GAO's determinations. The findings outlined in the draft report are consistent with accepted acquisition practices employed throughout DOI. DOI strives to use remanufactured parts when they are available and their use meets or exceeds mission requirements. When practical, the use of remanufactured automobile parts provides an avenue for potential savings to the government without sacrificing vehicle performance or mission delivery.

DOI actively seeks to control the costs of fleet maintenance and will continue to use remanufactured parts where they are the most cost effective solution. If you have questions or need additional information, please contact Willie Davis, Office of Acquisition and Property Management, at (202) 513-7541 or by e-mail at willie_davis@ios.doi.gov.

Sincerely,

Rhea S. Suh

Assistant Secretary - Policy, Management

and Budget



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