

# Use of the Finished Vehicle Logistics message standard in the process chain

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## 1 Change history

Version	Veröffentlicht am	Änderungen
1.0	07.05.2023	First published
1.1	25.09.2023	Miscellaneous formal corrections
1.2	10.01.2024	Added Chapter "Interface tests and error handling"

## 2 General

The client provides a web-based application, the Outbound Order Book, for the purpose of data exchange. In addition, an interface-based FVL message exchange is possible and can be used at the request of the contractor. The client uses the Finished Vehicle Logistics (FVL) message standard for order-related communication of vehicle logistics. The aim is to provide contractors with a uniform industry-wide message standard that they can also use to communicate with other customers. For all messages described below, the exact contents of the messages and their formats can be found in the Volkswagen-specific specification of the message standard.

General information on the Finished Vehicle Logistics messages can be found on the websites of the VDA, Odette and the ECG.

This document explains the process of message exchange using the FVL messages. Chapter 3 describes the registration for electronic data exchange. Chapter 4 explains how messages are exchanged with FVL messages using a number of use cases. In addition, Chapter 5 deals with the processing of service orders. Chapter 5 explains the structure and use of the individual FVL messages in detail.

As the FVL messages are implemented step by step, this document will be continuously expanded to include further process steps. This version therefore only describes the currently implemented status of the FVL messages. The following document applies to communication via the Outbound Order Book for transportation ex works, storage location, destination station, private address or trade to a works, storage location, depot, destination station and port.

### 3 Registration

Communication with the client by means of FVL messages takes place via the Out-bound Order Book, which is offered as an application in the RIO Cloud. The contractor requires a free account on the RIO platform for access.

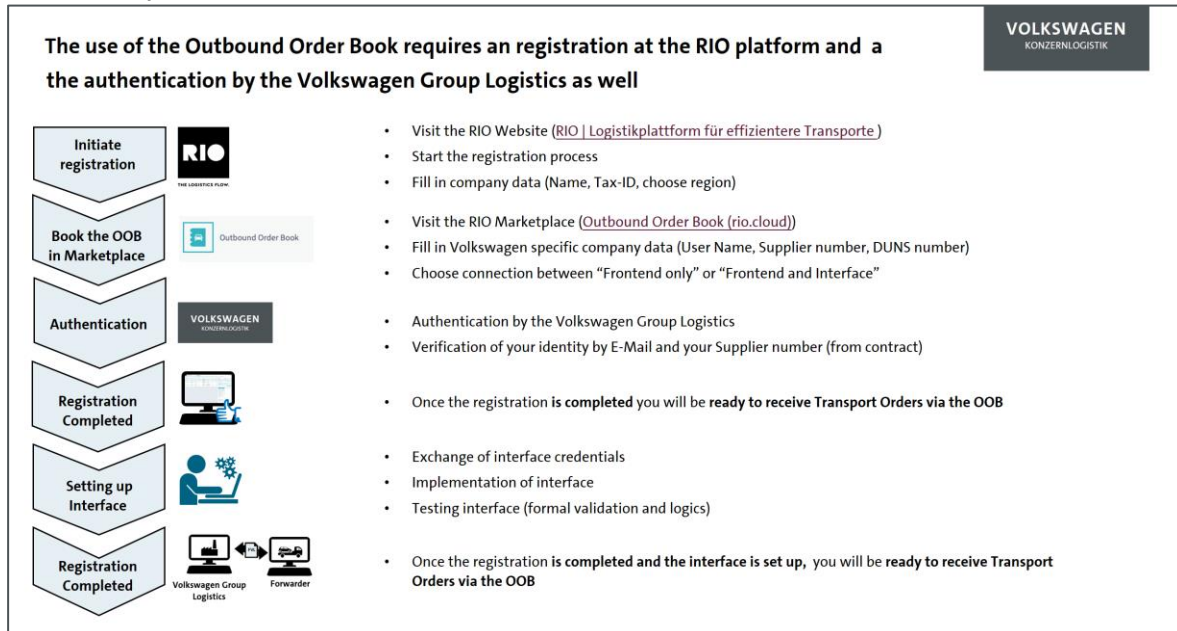


Figure 1: Registration for electronic data interchange

The first step is the **initial registration** of the contractor on the RIO platform. This requires data such as the name of the company to be registered, the VAT ID and the postal address. As soon as this registration has been completed, the outbound order book can be booked free of charge on the RIO platform. During the booking process, the Volkswagen supplier number of the company to be registered is requested for authentication purposes. When booking the Outbound Order Book, the contractor has the option of specifying whether the interface for the exchange of FVL messages should be set up.

The contractor is then authenticated by Volkswagen Group Logistics using the **supplier number** and the data transmission for the contractor to the Outbound Order Book is activated. From this point on, registration with RIO is complete and the contractor can display and process its transport orders via the web portal. Sollte der Auftragnehmer die Einrichtung einer Schnittstelle wünschen (Angabe im Buchungsprozess des Outbound Order Books) setzt sich RIO mit dem Auftragnehmer in Kontakt, um die notwendigen Schritte einzuleiten (Austausch von Zugangsdaten, Beschreibung der REST-API, sowie XSD Dateien der FVL Nachrichten). Zum Einrichtungsprozess der Schnittstelle gehört ein Abnahmetest des relevanten Nachrichtenaustausches, für den im Vorfeld entsprechende Testdatensätze bereitgestellt werden.

If the contractor wishes to set up an interface (specification in the outbound order book process), RIO will contact the contractor to initiate the necessary steps (exchange of access data,

description of the REST API and XSD files of the FVL messages).The process of setting up the interface includes an acceptance test of the relevant message exchange, for which corresponding test data sets are provided in advance.

## 4 Processing of transport orders

In the following sub-chapters, the message exchange process for the commissioning and processing of transport orders is described in detail in various use cases. The contents of the individual messages are explained in Chapter 6. This process description covers communication for the transportation of new vehicles as well as for the transportation of used vehicles.

In most cases, a transport order describes the collection of a vehicle from a defined starting point and its transportation to a defined destination (e.g. collection of a vehicle from a production plant or delivery of used vehicles). In addition, in rare cases, if contractually agreed, there are transport orders with a defined starting point but free choice of destination by the contractor (e.g. for pick-ups from dealers, if the contractor is also a warehouse operator).

The basic logic for message exchange is identical for all transports. There are only differences in the assignment of individual data fields. *Abwicklung eines Transportauftrages (einzelnes Fahrzeug)*

### 4.1 Processing a Transport Order (single vehicle)

A contractor who takes over a vehicle at the production plant, a storage location assigned to the production plant, a destination station, a dealer or a private address and transports this vehicle to a depot, destination station or port receives a transport order from the client as **an FV14a message**. The transport order always refers to a single vehicle. The contractor reports the confirmation (of acceptance) of the transport order back to the client using the **FV14b**.

Furthermore, the contractor must send status messages as **FV17** along the transportation process. For transportation by truck, the contractor must send the status "Loaded" at least once for each vehicle, the status "En route" as often as required and also the status "Unloaded" at least once.

## FVL message flow – overview

## Realization of "Pick Up" using the FVL messages in the standard process

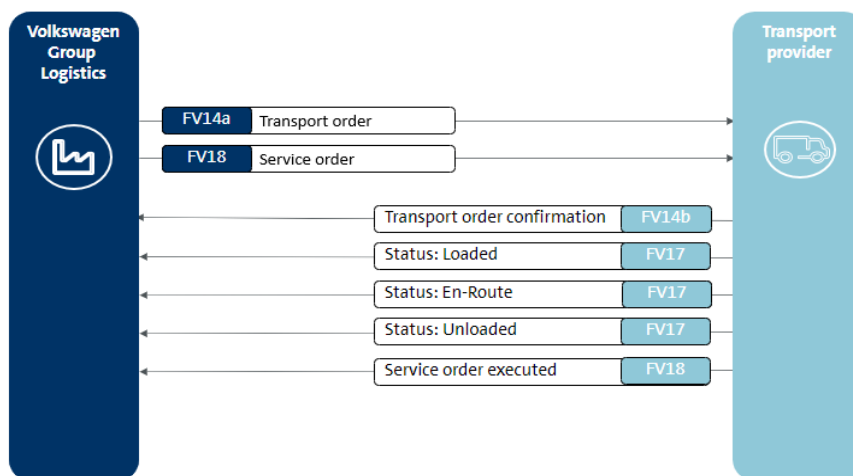
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Figure 2: Sending a transport order and confirmation by the contractor

With the "Loaded" status, the freight forwarder confirms that the vehicle has been loaded via FV17. The contractor thus confirms the start of the transport service. The freight forwarder can then transmit the "En Route" status again with an FV17 and add information about the transport, such as the current position. To complete the transport, the contractor must transmit an FV17 message with the status "Unloaded" for each vehicle, whereby the contractor confirms the end of the transport service.

#### 4.2 Processing a Load (several Transport Orders)

If the acceptance of a load has been agreed with the contractor, individual transport orders are combined by the client to form a load. As a rule, the transport orders transferred as a load correspond to the vehicles physically located on the site in a row, which can only be loaded in this constellation. The condition for grouping as a load is that all transport orders must contain the following information: Place of dispatch, carrier, pick-up time, means of transportation and, in the case of rail transport, the wagon. The necessary prerequisites and the specifics that must be observed for the formation of loads in new and used vehicle transportation are described in the



following section.

### Transport Order Bundle – Charge formation



- Several transport orders, which are to be transported together, can be combined into one load
- For this bundling, each transport order is entered in the "Reference" field with the number of the load to which it is assigned (LoadingList)
- **Use cases:**
  - Plant defines load → example: the commissioning plant already parks the vehicles in rows and wants the freight forwarder to pick them up together
  - Freight forwarder defines load → Example: the commissioning plant parks vehicles individually and the service provider itself defines which vehicles it can optimally transport together



Figure 3: Bundling several transport orders into one load

#### 4.2.1 Transport of new vehicles as cargo

If the transport of a load is commissioned, individual **FV14a** transport orders are bundled/combined via a **reference of the type "LoadingList"** in accordance with the following description (see Figure 3). All transport orders belonging to the load contain the identical value for "LoadingList".

### FVL Message Flow

Sending a transport order and confirmation by the service provider

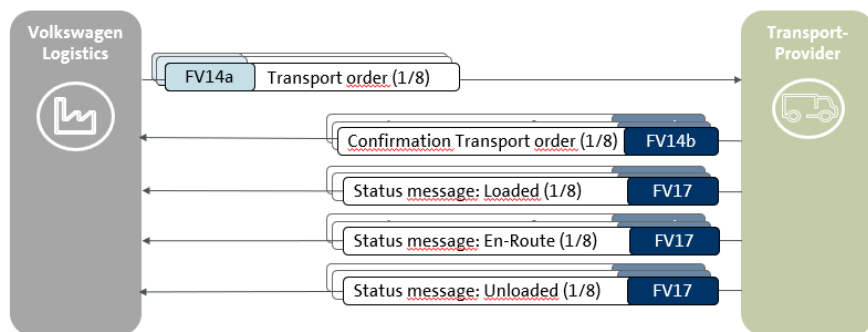


Figure 1: Sending multiple transport orders and confirmation by the contractor

A contractor who takes over a group of vehicles at the production plant, a storage location assigned to the production plant or a destination station and transports this group of vehicles to one or more depots, destination stations or ports continues to **receive an individual transport order from the client as FV14a** for each vehicle to be transported (see Figure 2). All transport orders for a shipment are transmitted at the same time. The confirmation (of acceptance) of the transport orders is reported back to the client by the contractor using FV14b. A confirmation (FV14b) is expected for each individual transport order (FV14a). At best, the contractor transmits the confirmations at the same time.

In this example, the contractor must also send status messages along the transport process. Based on FV17, the contractor must send the client the status "Loaded" at least once for each vehicle, the status "En route" as often as required and also the status "Unloaded" at least once.

Due to operational influences on the site, it may be the case that individual vehicles in the load cannot be transported and are replaced by other vehicles on site. The process of replacing vehicles in an existing load is described in section 4.6.6.

#### 4.2.2 Transport of used vehicles as cargo

Commissioning the transportation of several used vehicles as a load is technically possible, but is not currently used. Chapters 4.6.5 and 4.6.6 are therefore not relevant for communication in the area of used vehicle logistics.

### 4.3 Status messages for a Transport Order

As described in chapter 4.1, status information can be exchanged for a transport request using the *FV17 VehicleTransportStatusReport*. The exact description of the information and the details of the status chronology can be found in the following chapter 6.4.

### 4.4 Updating of Transport Orders by the client

A transport order already transmitted to the contractor (or a number of transport orders grouped as a load) may still be subject to changes due to operational processes, but these only serve to make the transport order more specific.

#### 4.4.3 Possible reasons for Updating

Changes to existing transport orders on the part of the client are possible in the following cases, for example.

##### For new and used car transportation:

- The exact loading point at the start location is added or updated, whereby the start location remains unchanged
- The contact person at the start/finish location changes
- The opening hours at the start/finish location change

- The license plate or identification number of the means of transport (e.g. truck license plate or wagon number) is added or corrected by the shipper at the place of loading

#### Only for new car transports:

- The VIN is added to the transport order in addition to the production number (e.g. if the transport order was placed before the VIN was assigned in the production process)

#### 4.4.4 No use of updates

Under no circumstances will the start location, the destination or the vehicle to be transported be changed after the initial order has been placed. In such a case, the order would be canceled and reordered (see chapter 4.6).

#### 4.4.5 Transmission of an update to a transport order

The client retransmits the relevant transport orders to the contractor. The changed transport requests continue to be managed under the existing transport request number (DocumentID of the FV14a message). To make the nature of the change clear, the transport requests are marked with the DocumentFunctionCode "Change" and not with the initial DocumentFunctionCode "Original".

Figure 5 describes such a case as an example. After the initial dispatch of transport requests 1-8 per FV14a message, the contractor confirms the acceptance of all requests with one FV14b message per request. Transport orders 2 and 3 are then updated. A new confirmation of the orders is not expected. Instead, the regular status messages are sent for each of the eight orders using an FV17 message.

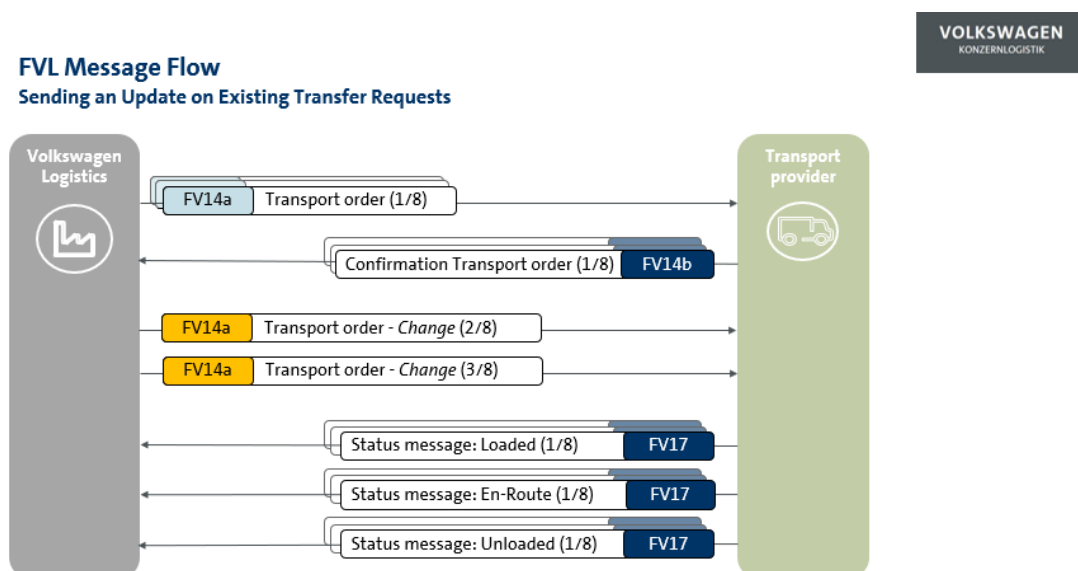


Figure 5: Sending an update to existing transport requests  
Example shown: Requests no. 2 and no. 3 are subject to changes

## 4.5 Updating the contractors feedback

The contractor has the option of submitting additional information or correcting information that has already been transmitted. For this purpose, the contractor can send messages several times.

A few basic points should be noted when updating messages:

1. a message is always updated with the same message type
2. the reference of an update is (as with an initial confirmation) the original order
3. the last update is considered valid information for the transport
4. an updated confirmation should not only contain the updated information, but all previously transmitted data (results from 3.)
5. if information that the contractor has already sent is missing in an update, it is interpreted as deliberately removed or deleted
6. updates are only possible for 72 hours after an order has been fully processed (e.g. unloading of the vehicle or successful completion of a service order has been confirmed)

### Example: Processing a transport order

#### Order

- *The client sends the contractor a transport order (FV14a)*

#### Confirmation

- *The contractor sends the client a confirmation of the transport order (FV14b) - without providing any further information about the transport*

#### Update

- *The contractor dispatches a truck for transportation*
- *The contractor sends another confirmation of the transport order (FV14b) and adds transport information such as the truck license plate number and the planned pick-up or delivery time to this confirmation.*

#### Update

- *The scheduled truck is expected to be late and the contractor would like to inform the client about this*
- *The contractor sends another confirmation of the transport order (FV14b) and indicates the updated pick-up or delivery time.*

When exchanging messages, it is important that the contractor always includes all information known to him and relevant to the transport in the most recent message. If, as shown in the example, the contractor sends another FV14b to correct his details, it is important that the new FV14b contains all the data already sent as well as all the corrected data. If the contractor has previously sent an FV14b with the contents "Truck license plate number", "Pick-up time" and "Delivery time" and now wants to correct the value "Pick-up time", the updated FV14b must

also contain the information "Truck license plate number" and "Delivery time" in addition to the new value "Pick-up time", as these will otherwise be overwritten.

In addition to the FV14b, the FV17, the status message, can also be sent several times in order to overwrite previously transmitted information. To update a status, it is important that the FV17, which is to overwrite a previously sent status message, also contains the same status code. The contractor can therefore also subsequently correct the time for loading the vehicle by sending a new FV17 to the client. This new FV17 with the corresponding status code "Loaded" and the actual loading time determined by the contractor as "StatusDate" then overwrites the previous message.

## 4.6 Cancellations in the process chain

The FVL message flow contains various cases in which a transport order that has already been transmitted can be canceled again. The following section explains simple cancellation, cancellation as part of a load and cancellation with direct replacement by a new transfer order.

### 4.6.6 Cancellation of a Transport Order

The client can cancel a transport order due to operational processes prior to shipment. Cancellation can take place both before (see Figure 6) and after confirmation (FV14b) by the contractor (see Figure 7). In order to make the cancellation recognizable, the client re-transmits the transport orders to be cancelled to the contractor, but uses the document function code "Cancellation". The transport orders to be canceled are sent with the same transport order number (DocumentID) as the initial transport orders.

#### FVL Message Flow

##### Cancelling multiple transport orders before confirmation by the service provider

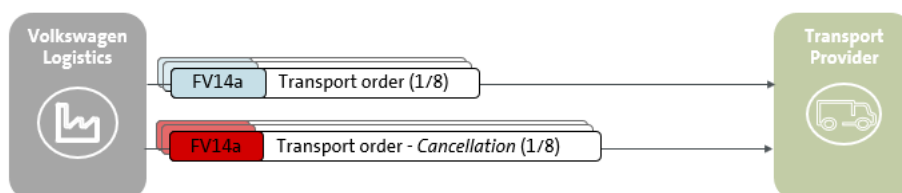


Figure 6: Cancellation of multiple transport orders before confirmation by the contractor

#### FVL Message Flow

##### Cancellation of multiple transport orders after confirmation by the service provider

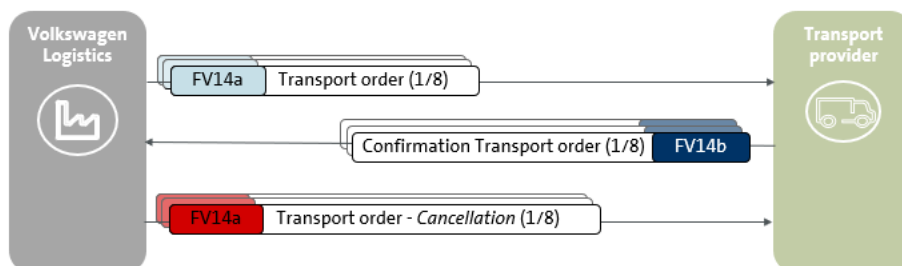


Figure 7: Cancellation of multiple transport orders after confirmation by the contractor

### 4.6.7 Cancellation of a transport order as part of a shipment

The client can cancel transport orders that represent part of a load before loading without canceling the load as such. Cancellation can take place both before (see Figure 8) and after confirmation by the contractor (see Figure 9).

In order to make the cancellation recognizable, the client transmits the relevant transport orders to the contractor again, but uses the DocumentFunctionCode: "Cancellation". The changed transport orders are sent with the same transport order number (DocumentID) as the initial transport orders. Canceled transport orders for a load no longer need to be confirmed by the contractor.

The load continues to exist as long as not all transport orders with the corresponding load number (reference "LoadingList") have been canceled. The client shall endeavor to refill the load with vehicles by the time of collection so that a full load is created (see chapter 4.6.8 ).

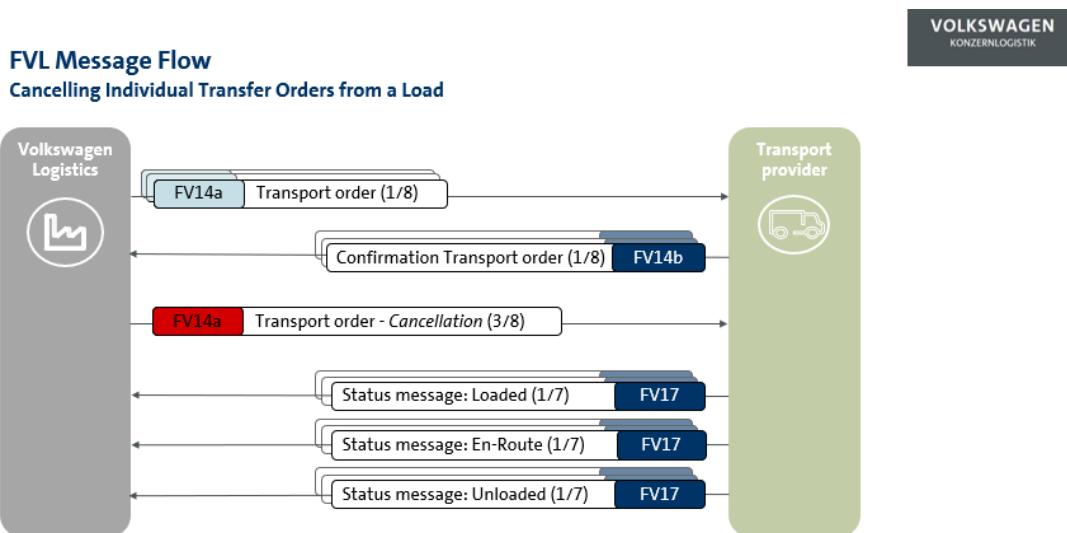


Figure 8: Cancellation of individual transport orders from a load after confirmation by the contractor

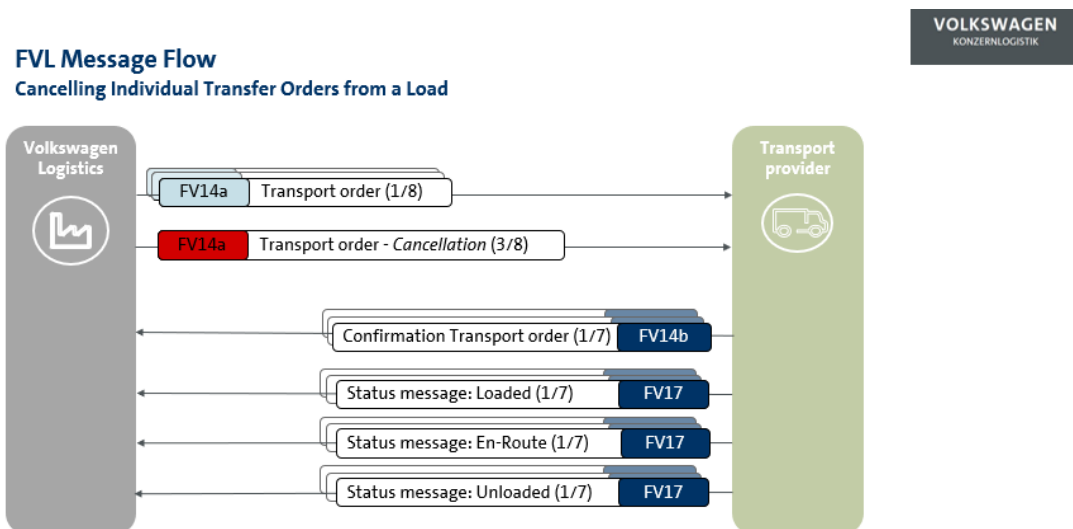


Figure 9: Cancellation of individual transport orders from a load before confirmation by the contractor

#### 4.6.8 Replacement or exchange of a vehicle that has already been assigned to a load

As a rule, the load transmitted to the contractor should not change. However, operational events at the plants or other starting points of the transport may mean that certain vehicles cannot be transported (technical defect, blockages, etc.).

In order to provide the contractor with the intended number of vehicles, vehicles can be swapped in such cases. This involves canceling the transport orders for the non-transportable vehicles in the load and simultaneously or at least promptly reordering a corresponding number of transportable vehicles with the same load number (see Figure 10).

If the vehicle exchange takes place before the contractor confirms the load, the contractor must send a confirmation for the previous and the new transport orders. If the vehicle exchange takes place after confirmation of the load by the contractor, the contractor does not have to send confirmation of the new transport orders. A new confirmation is not required, as a vehicle exchange can also take place at short notice at the dispatch location if a vehicle cannot be transported by the contractor, e.g. due to damage. In such a case, the exchange would take place in coordination with the driver on site.

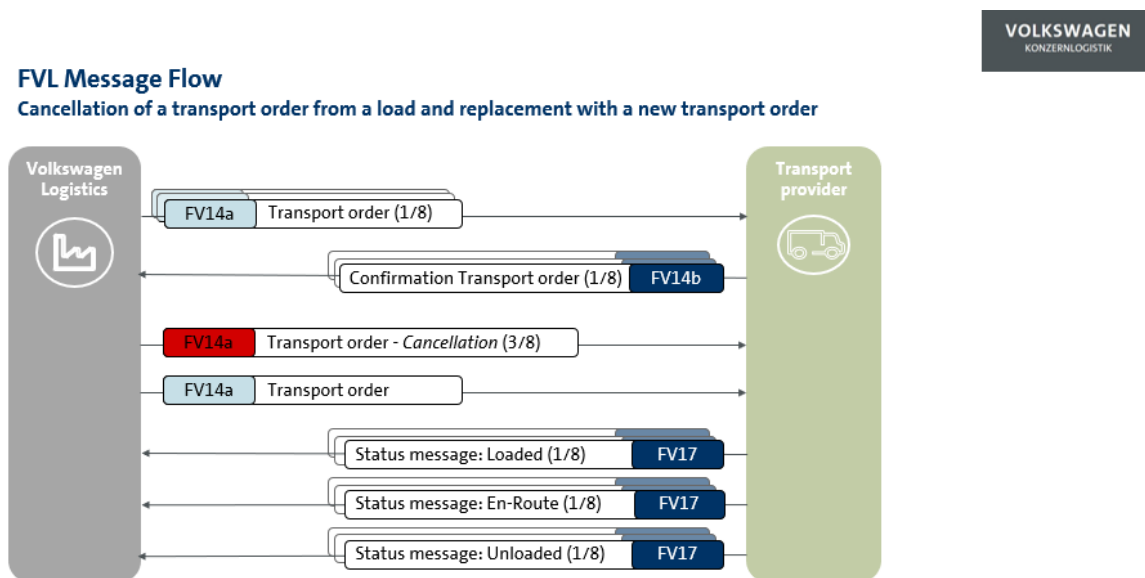


Figure 10: Cancellation of a transport order from a load and replacement by a new transport order after confirmation by the contractor

**Example from Figure 10:** Eight transport orders are sent to a freight forwarder. These are to be collected together as a complete load from a plant and are therefore grouped together as a load. The freight forwarder duly confirms the collection of the load. Due to a spontaneous blockage, vehicle no. 3 from the load may not be transported. A new vehicle is assigned to the load to replace the blocked vehicle. The client communicates this by canceling the transport order for the blocked vehicle no. 3 and creating a new transport order for the replacement vehicle. This is assigned to the load using the "LoadingList" reference in the transport order. As this swap can also take place at short notice, no further confirmation of the transport order by the contractor is required. The loading of the replacement vehicle is regarded as an implied action which replaces the explicit confirmation of the transport order. The freight forwarder can pick up eight vehicles according to his planning, as a blocked vehicle of the cargo was exchanged or replaced by a transportable vehicle at short notice.

## 4.7 Reporting Incidents

So-called "incidents" can occur, particularly during the transportation of used vehicles. An incident means a disruption to the regular transportation process. This disruption can be recognized before the contractor reaches the starting point of the transport, or only upon reaching the starting point. The reasons for any incident reports can be found in the following table and apply to the following sub-chapters.

Category incident	FVL Message Value	Supplementary free text
Vehicle cannot be found/ not at the location	NOTESITE	Ja <i>optional</i>
Contact person at pick-up location not known	CONTACTUNKNOWN	Ja <i>optional</i>
Vehicle not ready for pick-up (reason in free text)	NOTREADYFORPICKUP	Ja <b>Duty</b>
Vehicle key not available	NOKEYS	Ja <i>optional</i>
Vehicle not roadworthy	NOTREADYTODRIVE	Ja <i>optional</i>
Vehicle not ready to roll	NOTREADYTOMOVE	Ja <i>optional</i>
Other reason for an incident (reason in free text)	OTHER	Ja <b>Duty</b>
Empty run	EMPTYRUN	No

*Table 1: Reasons for incidents*

Please note that the reporting of incidents is currently only used in the transportation process for used vehicles.

### 4.7.1 Incident known before loading

For used vehicle transports of the order type "collection", it is agreed that the commissioned contractor will coordinate the time of collection of the vehicle with the contact person at the starting location. This announcement should also be accompanied by a preliminary clarification. The purpose of this preliminary clarification is to determine whether the vehicle is actually at the starting point of the transport and what condition the vehicle is in.

If the preliminary clarification shows that, contrary to expectations, the vehicle is not at the starting point of the transport or that the vehicle is in a condition that does not permit transportation by the commissioned contractor, the contractor may reject the transport order.

The contractor communicates the rejection, analogous to a confirmation of a transport order, with the message FV14b "VehicleTransportOrderResponse", whereby the document function code "Rejection" must be used in the event of a rejection. Furthermore, the reason for the incident must be specified as free text of type "RejectionReason" in accordance with Table 1. If a



supplementary description is required for this incident reason, this can be specified as free text of type "General".

#### FVL message flow – overview

Use of the incident process during the "Pick Up" of used vehicles.

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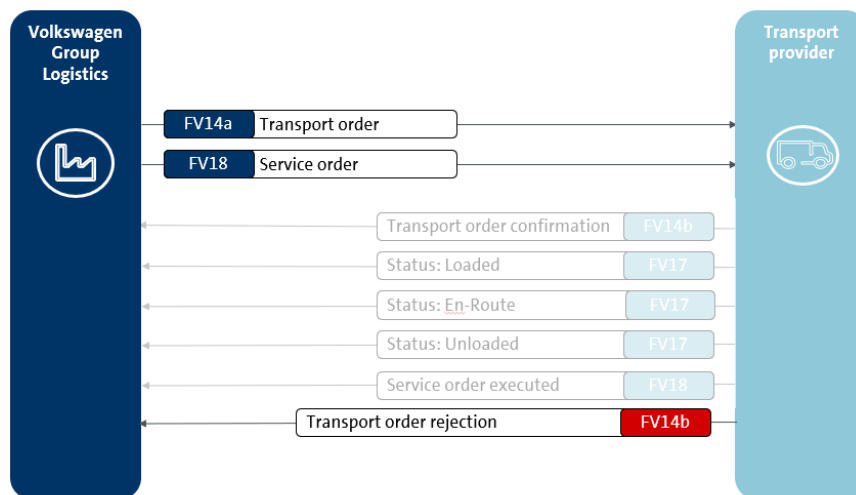


Figure 11: Incident known before loading

#### 4.7.2 Incident only recognized during loading

In the case of used vehicle transports of the order type "collection", it is agreed that the commissioned contractor will coordinate the time of collection of the vehicle with the contact person at the starting location. This announcement should also be accompanied by a preliminary clarification. The purpose of this preliminary clarification is to determine whether the vehicle is actually at the starting point of the transport and what condition the vehicle is in.

If the preliminary clarification carried out suggests that the vehicle is located at the starting point of the transport, the contractor must appear at the starting point of the transport to carry out the transport. If the Contractor determines on site that the vehicle is either not present or is in a condition that is not suitable for transportation, the Contractor may refuse the transport order.

The contractor communicates the rejection, analogous to a confirmation of a transport order, with the message FV14b "VehicleTransportOrderResponse", whereby the document function code "Rejection" is to be used in the event of rejection. In addition, the contractor has the option of requesting reimbursement from its client for the costs incurred for the empty run. For this request, the contractor enters the value "EMPTYRUN" in the free text with the @Qualifier "RejectionReason" in the "VehicleTransportOrderResponse".

**FVL message flow – detail**  
**Use of the incident process during the “Pick Up” of used vehicles.**

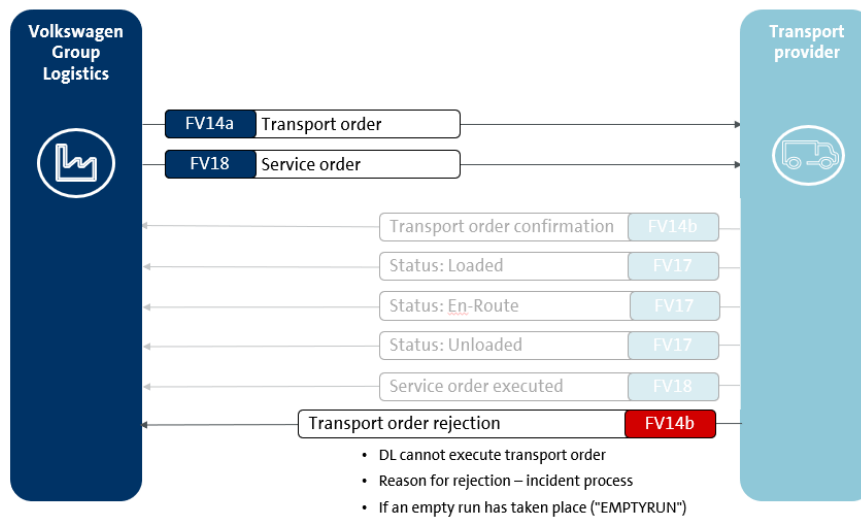


Figure 12: Incident only recognized during loading

## 5 Processing of service orders

The following sub-chapters describe in detail the message exchange process for the commissioning and processing of service orders in various use cases. The content of the individual messages will be explained in Chapter 6.

### 5.1 Definition of service order

A service order is a service that is provided as part of the transportation of vehicles. This includes, for example, handling services such as loading and unloading or storage services such as the removal and installation of transport protection, maintenance measures or other services as part of the preparation for subsequent transports. As a service order, the FV18 also offers the option of exchanging additional information on the service performed or the vehicle's accessories.

### 5.2 Service orders in the used car process

#### 5.2.1 Sending License Plate and registration Certificate Part 1 to Deregistration Service Provider

Particularly in the case of transport orders of the type "collection" of used vehicles, the contractor receives a service order in addition to the transport order for the receipt of license plates and registration certificate part 1 and the dispatch of these to a deregistration service provider. For this purpose, the customer uses a service order in the form of message FV18 with the "Vehicle Service Order" subtype. This message contains the service code "X27: Conduct a vehicle handover". In this service order, the customer notes which accessories or documents the contractor is to check on the vehicle to be accepted.

Examples of the items to be checked are Number of license plates, number of keys, presence of the service booklet and the registration certificate part 1. The contractor can report back the checked and accepted items using the message FV18 with the "Vehicle Service Order Response" SubType.

Even if the contractor has not accepted one of the items mentioned, this must be reported.

**FVL message flow – overview**

Realization of "Pick Up" using the FVL messages in the standard process

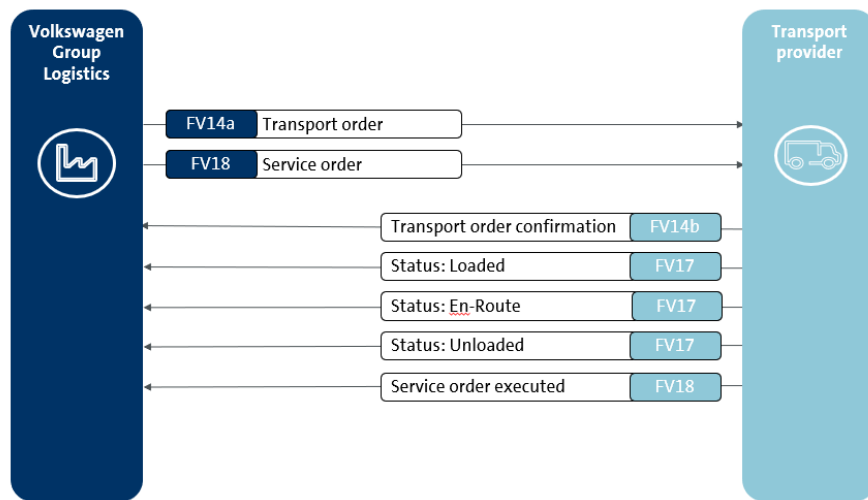


Figure 13: Commissioning of transport and service

### 5.2.2 Other Service orders

The processing of further service orders via FVL message exchange is currently in preparation.

### 5.3 Service orders for New Cars

Currently no service orders are processed via FVL message exchange. In the future, handling and care measures, for example, will be handled via service orders.

## 6 Content of the FVL news in detail

The messages that the client uses to exchange data with the contractors are described below. For each message, the function in the process, the most important content of the individual message and the time of transmission are explained. The exact content of the messages and their formats can be found in the Volkswagen-specific implementation guidelines for the message standard. This policy and the corresponding XSD files can be viewed and downloaded on the One.KBP platform.

### 6.1 General regulations for all FVL messages

- Mandatory fields according to VW implementation guidelines for the traffic control messages must be implemented in both directions (outward and return path)
- Optional fields contain additional information that is helpful for fulfilling the order or
- To describe the SenderID and the ReceiverID (outward and return path)
- Overwriting response values (e.g. resending ConfirmedDeliveryDate)
- "Reset" or "delete" response values (e.g. send FV14b without the ConfirmedPickupDate attribute, although it was included in the first FV14b)

### 6.2 FV14a – Vehicle Transport Order

The FV14a - Vehicle Transport Order message represents the initial transport order that the principal sends to instruct the contractor to transport vehicles. The FV14a - Vehicle Transport Order can also be sent by the client to the destination of a transport in order to inform the destination of this inflow. One transport order is created per vehicle. Several transport orders can be combined into one load (see subchapter 4.2 ).

#### 6.2.1 Content

The contents of the transport order relate to a specific vehicle, as shown in **Figure 14**.

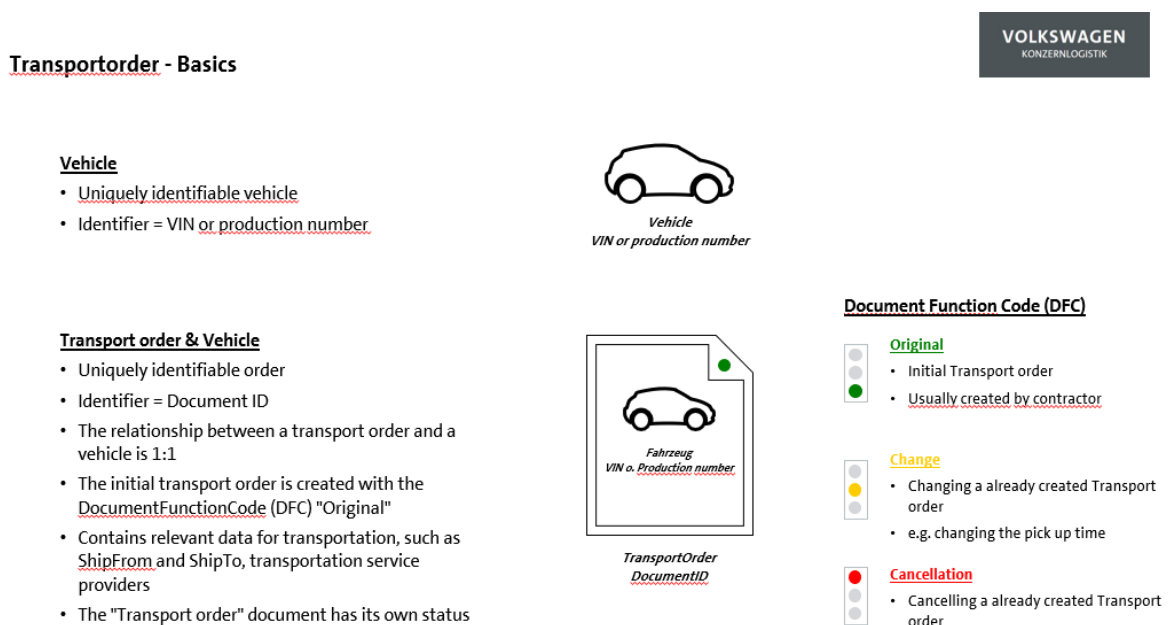


Figure 14: Relationship between vehicle and transport order (FV14)

The main contents of the message are:

	Initial order	Update	Cancellation
<b>SubType</b>	1000-5000-500-		
<b>IssueDate</b>	Date of issue of the message		
<b>DocumentFunctionCode</b>	<i>Original</i>	<i>Update</i>	<i>Cancellation</i>
<b>DocumentID</b>	Transport order number to which the contractor refers in confirmations		
<b>Reference „Contract-Number“</b>	<i>Optional</i> : Contract number between contractor and client; not always available		
<b>Reference „ContractItemNumber“</b>	<i>Optional</i> : Performance key of the contracted service according to the contractual agreement between the contractor and the contractor; not always available		
<b>Reference „LoadingList“</b>	<i>Optional</i> : Load number if several transport orders have been ordered as a contiguous load		
<b>Forwarder</b>	Contractor		
<b>ShipFrom</b>	Pick-up location <ol style="list-style-type: none"> <li>1. <i>Identifier</i> (Agency: Buyer): Volkswagen Ortscode</li> <li>2. <i>Address</i>: Business address of the pick-up location</li> <li>3. <i>LoadingPoint</i> (optional): Specifying address at the pick-up location (e.g. exact address of the driveway)</li> <li>4. <i>Contact</i> (optional): Contact details of the pick-up location</li> </ol>		
<b>ShipTo</b>	Delivery <ol style="list-style-type: none"> <li>5. <i>Identifier</i> (Agency: Buyer): Volkswagen Ortscode</li> <li>6. <i>Address</i>: Business address of the place of delivery</li> <li>7. <i>UnloadingPoint</i> (optional): Specifying address at the place of delivery (e.g. exact address of the driveway)</li> <li>8. <i>Contact</i> (optional): Contact details of the place of delivery</li> </ol>		
<b>TransportMode &amp; TransportMeans</b>	Type of means of transport (e.g. road & truck)		
<b>RequestedPickupDate</b>	Period of requested pick-up. At the earliest, with commissioning, but possibly also in the future. The length of the period is defined by contractually agreed deadlines.		
<b>RequestedDeliveryDate</b>	Latest delivery date. The date is defined by contractually agreed deadlines.		
<b>ConfirmedPickupDate</b>	-	Estimated pick-up date <i>Filled only if the contractor has already provided this information</i>	
<b>ConfirmedDeliveryDate</b>	-	Estimated delivery date	

		<i>Filled only if the contractor has already provided this information</i>
<b>TransportMeansID</b>	-	Characteristics of the means of transport <i>Only filled if the customer or the sender has already provided this information</i>
<b>Vehicle</b>	Information about the vehicle to be transported <ul style="list-style-type: none"> <li>• DispatchType: new, used</li> <li>• VehicleID: VIN or ProductionNumber if no VIN is available yet</li> <li>• Color</li> <li>• Manufacturer: Manufacturer</li> <li>• ProductionDate (optional): Production date, if available</li> <li>• GrossWeight (optional): Gewicht in kg</li> <li>• Length (optional): Length in mm</li> <li>• Width (optional): Breite in mm</li> <li>• Height (optional): Höhe in mm</li> <li>• Mileage (optional): mileage; especially for used cars</li> <li>• LicensePlate (optional): Flag; especially for used cars</li> </ul>	
<b>Model</b>	Model information for Vehicle <ul style="list-style-type: none"> <li>• Name: Model Name</li> <li>• Version (optional): 3- or 6-digit model key for Volkswagen AG vehicles</li> <li>• Manufacturer: Manufacturer</li> <li>• ModelGroup: Model Class 1-6</li> <li>• ProductType: Fahrzeugart</li> <li>• FuelType: Energy source or fuel</li> </ul>	

A complete overview of the content provided in the Volkswagen-specific specification of this message can be found in the additional description files provided.

### 6.2.2 Time of transfer

The transfer of the transport order takes place as soon as the vehicle has been physically staged at the starting location of the transport and the staging notification has been processed. If transport orders are combined into a load in accordance with this description, all transport orders for the load are transmitted together.

## 6.3 FV14b - Vehicle Transport Order Response

The message FV14b - Vehicle Transport Order Response represents the contractor's response to the initial transport order, which the client has sent to the contractor in advance. For the purpose of transparency in the transport chain, this message can be forwarded by the client to the destination of the transport.

As messages FV14a and FV14b are identical in structure, it is important to emphasize the difference. The FV14a is used to order the transport and contains all the data required for the order. In addition to the transport information from the initial FV14a, the confirmation of the order in the form of FV14b can also contain **the registration number of the collecting truck** and **the planned collection time** as well as **the planned delivery time**. These fields **are to be filled in by the contractor** and transmitted to the client. In the case of used vehicle transports of the order type "collection", the FV14b can also be sent by the contractor to report an incident and thus reject the transport order. However, this option is not available for the transportation of new vehicles.

### 6.3.3 Content

Contents of the message are:

The fields "ConfirmedPickupDate" and "ConfirmedDeliveryDate" must be filled in by the contractor. The "TransportMeansID" field (truck license plate number) should be transmitted by the time the collecting truck arrives at the place of dispatch at the latest. A complete overview of the contents provided in the Volkswagen-specific specification of this message can be found in the additional description files provided.

### 6.3.4 Time of transfer

The contractor must send the confirmation of the transport order to the client for the new vehicle process no later than 24 hours after the order is placed. Information such as **the license plate number of the means of transport** is necessary, e.g. to register the collecting truck at the loading location. If the FV14b is transmitted later (e.g. on the day of collection), a smooth process for new vehicle transports cannot be guaranteed. If the FV14b is not transmitted, the carrier will be denied entry at the starting point of the transport without resorting to manual communication.

In the used vehicle process, the Contractor must notify the Client of acceptance of the transport order within 24 hours of the order being placed. However, the message can be sent several times by the contractor in order to add content (e.g. planned pick-up date) that was not yet known at the time the transport was accepted. There is also the option described in section 4.7 to report an incident up to the moment of collection using FV14b.

## 6.4 FV17 – Vehicle Transport Status Report

The message FV17 - Vehicle Transport Status Report offers the option of exchanging information along the transport chain of a vehicle. It is the central message for exchanging status information on an existing transport order (FV14 Transport Order). As a rule, this message is transmitted to the client by a transport or storage location service provider.

The FV17 is used to communicate the essential status points in each transport. By transmitting the statuses "Loaded" and "Unloading completed", the contractor marks the start and end of the transport at the level of an individual vehicle. **These messages must be transmitted for**



**every transport order in the area of new vehicle transports.** In addition, the contractor can use the status code "En route" to transmit position data for the transport.

### 6.4.1 Content

The Contents of the message are:

	Initial status message	Update
<b>SubType</b>	<i>TransportStatus</i>	
<b>IssueDate</b>	Date of issue of the message	
<b>DocumentID</b>	Unique number to identify the transport status message of the contractor (generated by the contractor)	
<b>Reference „TransportOrder“</b>	<b>Obligation:</b> Reference for the transport request for which the status is to be set with this FV17 1. DocumentID of the initial FV14a	
<b>Reference „LoadingList“</b>	<i>Optional:</i> Load number if several transport orders have been ordered as a contiguous load → Copy from FV14a	
<b>Forwarder</b>	Contractor	
<b>ShipFrom</b>	<i>Optional:</i> Abholort 1. <i>Identifier</i> (Agency: Buyer): Volkswagen Ortscode 2. <i>Address:</i> Business address of the pick-up location 3. <i>LoadingPoint</i> (optional): Specifying address at the pick-up location (e.g. exact address of the driveway) 4. <i>Contact</i> (optional): Contact details of the pick-up location → Copy from FV14a	
<b>ShipTo</b>	<i>Optional:</i> Delivery location 5. <i>Identifier</i> (Agency: Buyer): Volkswagen Ortscode 6. <i>Address:</i> Business address of the place of delivery	

	<p>7. <i>UnloadingPoint</i> (optional): Specifying address at the place of delivery (e.g. exact address of the driveway)</p> <p>8. <i>Contact</i> (optional): Contact details of the place of delivery</p> <p>→ For new car transport: Transfer from FV14a For used car transport: Transfer from FV14a</p> <p>→, if available. Otherwise, enter information about your own destination storage location</p>
<b>TransportStatus</b>	This section has not yet been used in the exchange of messages with the client and is therefore not supported.
<b>ShipmentStatus</b>	Information about the transported vehicle
	1. <i>VehicleID</i> (Chassis Number)
<b>Status</b>	Information about the transport status
	1. Status code (value of status)
	2. Statusdate (Zeitpunkt des Status)
	3. Location (Ort des Status)

The following statuses are currently supported. The table provides information on the use of the respective status.

Status und StatusCode	Meaning	Place and time	Necessity
<b>Loaded - 48</b>	Loading of the vehicle by the contractor has taken place	Starting point, after loading	Duty
<b>En route - 31</b>	Exchange of information on transport (e.g. location of transport)	In transit, at any time	Optional
<b>Unloading completed - 346</b>	Unloading of the vehicle by the contractor has taken place	Destination, after unloading	Duty

*Table 1: Statuses to be transferred at individual vehicle level using FV17*

A complete overview of the content provided in the Volkswagen-specific specification of this message can be found in the additional description files provided.

## 6.4.2 Time of transfer

The "Loaded" status is issued shortly after the physical event. However, the message must be sent within 24 hours of the physical event at the latest for new goods shipments. The "En Route" status can be sent at any time during transportation. The "Unloading completed" status is sent shortly after the physical event. However, the message must be sent within 24 hours of the physical event at the latest.

As soon as the "Unloading completed" status for a transport order is transmitted for the first time, a correction period of 72 hours begins. During this period, previously transmitted statuses can be corrected. For this purpose, the contractor sends the client an FV17 - Vehicle Transport Status Report with the status to be corrected and the data corrected for this status (e.g. StatusDate).

As described above, several status messages can be exchanged for a transport order. The status message with the most recent value "IssueDate" is always valid in the communication for a specific transport order.

### FVL message flow – overview

Realization of "Pick Up" using the FVL messages in the standard process

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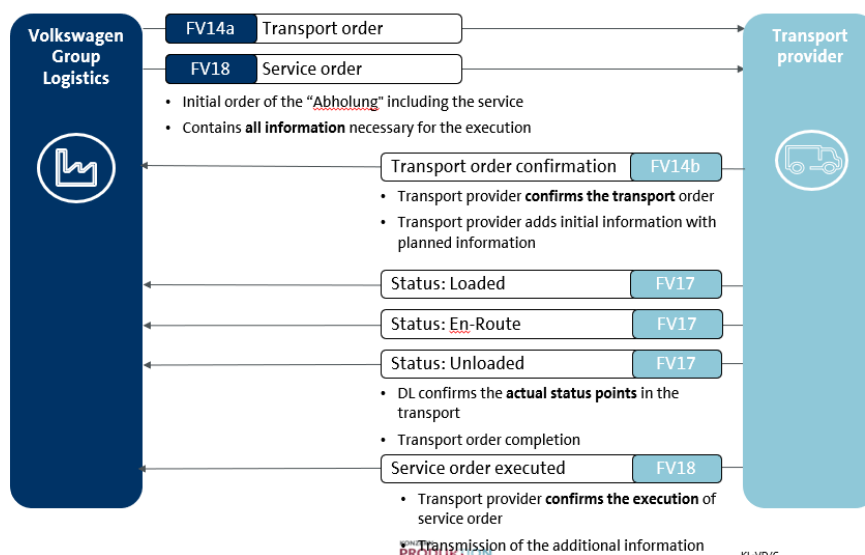


Figure 15: Exchange of several FV17 VehicleTransportStatusReport

## 6.5 FV18 - Vehicle Service Order

The message FV18 - Vehicle Service Order is transmitted by the client to instruct the contractor to carry out a service. The client uses the "VehicleServiceOrder" SubType for this purpose. The contractor can respond to this message and send information on the corresponding order by sending the principal an FV18 - Vehicle Service Order with the "VehicleServiceOrderResponse" sub-type. The contents of both SubTypes can be found in the following tables. The following sub-chapters are therefore divided into the initial order by the client and the response by the contractor.

### 6.5.1 SubType: Vehicle Service Order

If the Vehicle Service Order message is sent with the SubType: VehicleServiceOrder, this is the initial commissioning of the contractor by the client. The content of this initial order can be found in the following sub-chapter.

#### 6.5.1.1 Content

	Initial Order	Update	Cancellation
<b>SubType</b>	<i>VehicleServiceOrder</i>		
<b>IssueDate</b>	Date of issue of the message		
<b>DocumentFunctionCode</b>	<i>Original</i>	<i>Update</i>	<i>Cancellation</i>
<b>DocumentID</b>	Service order number referenced by the contractor in confirmations		
<b>Reference „Contract-Number“</b>	<i>Optional</i> : contract number between the contractor and the client; not always available		
<b>Reference „ContractItemNumber“</b>	<i>Optional</i> : Performance key of the contracted service in accordance with the contractual agreement between the contractor and the client		
<b>Forwarder</b>	<i>Optional</i> : Transport service provider that is related to the service order (e.g. picking up the freight forwarder for the “Prepare for transport” service order)		
<b>ServiceProvider</b>	Contractor		
<b>ServiceSeller</b>	Contractor Here you have to enter the delivery number of the service provider who receives the initial FV18 – VehicleServiceOrder. This value should match the information in the Service Provider field		
<b>ServiceBuyer</b>	Client The same value as in the “SenderID” field must be entered here when the sender generates the message		
<b>ServiceLocation</b>	<i>Optional</i> : Place where the contractor executes the service order		
<b>ServiceCode</b>	Code for the service to be performed		
<b>ServiceDescription</b>	<i>Optional</i> : Description text for the service		

<b>Accessory</b>	<p><i>Optional:</i> Vehicle accessories with number. In certain service orders, the Client specifies a list of accessories that the Contractor is to check. For instance:</p> <ul style="list-style-type: none"> <li>• Key</li> <li>• LicencePlate</li> <li>• Manual</li> <li>• ServiceSchedule</li> <li>• SummerWheels</li> <li>• WinterWheels</li> <li>• VehicleRegistrationDocument</li> </ul>
<b>VehicleID</b>	<p>Number to identify the vehicle for the service order</p> <ul style="list-style-type: none"> <li>• VIN</li> <li>• ProductionNumber (if no Vin is available yet)</li> </ul>
<b>Model</b>	<p><i>Optional:</i> Model information for vehicle</p> <ul style="list-style-type: none"> <li>• Name: Model designation</li> <li>• Version (optional): 3- or 6-digit model key for Volkswagen AG vehicles</li> <li>• Manufacturer</li> <li>• ModelGroup: Model Class 1-6</li> <li>• ProductType: Vehicle type</li> <li>• FuelType</li> </ul>
<b>StartDate</b>	<p><i>Optional:</i> Time of start of the execution of the service order</p> <ul style="list-style-type: none"> <li>• Actual: Actual start time</li> <li>• Confirmed: Confirmed start time</li> <li>• Estimated: Estimated start time</li> <li>• Requested: Requested start time</li> <li>• Updated: Updated start time</li> </ul>
<b>CompletionDate</b>	<p><i>Optional:</i> Time of completion of the execution of the service order</p> <ul style="list-style-type: none"> <li>• Actual: Actual closing time</li> <li>• Confirmed: Confirmed closing time</li> <li>• Estimated: Estimated closing time</li> <li>• Requested: Requested closing time</li> <li>• Updated: Updated closing time</li> </ul>

### 6.5.2 SubType: Vehicle Service Order Response

The FV18 - Vehicle Service Order with the subtype "Vehicle Service Order Response" is sent by the contractor to the client in order to respond to a service order. If necessary, the message can also contain information on the service performed when a service is carried out. If it is not possible to carry out a service, the contractor can communicate this by using the DocumentFunctionCode "Rejection" in the message with the SubType "Vehicle Service Order Response".

### 6.5.1.1 Content

<b>SubType</b>	<i>VehicleServiceOrderResponse</i>		
<b>IssueDate</b>	Date of issue of the message		
<b>DocumentFunction-Code</b>	<i>Update</i>	<i>Rejection</i>	<i>Startinfo</i>
<b>DocumentID</b>	Unique number to identify the contractor's feedback (generated by the contractor)		
<b>Reference „Contract-Number“</b>	<i>Optional:</i> Contract number between the Contractor and the Client; not always available		
<b>Reference „ContractItemNumber“</b>	<i>Optional:</i> Performance key of the contracted service in accordance with the contractual agreement between the contractor and the client		
<b>Forwarder</b>	<i>Optional:</i> Transport service provider that is related to the service order (e.g. picking up the freight forwarder for the "Prepare for transport" service order)		
<b>ServiceProvider</b>	Contractor		
<b>ServiceSeller</b>	Contractor Here you have to enter the delivery number of the service provider who receives the initial FV18 – VehicleServiceOrder. This value should match the information in the Service Provider field		
<b>ServiceBuyer</b>	Client The same value as in the "ReceiverID" field must be entered here when the contractor generates the message		
<b>ServiceLocation</b>	<i>Optional:</i> Place where the contractor executes the service order		
<b>ServiceCode</b>	Code for the service to be performed		
<b>ServiceDescription</b>	<i>Optional:</i> Description text for the service		
<b>Accessory</b>	Vehicle accessories with number. If the Client specifies a list of accessories to be checked in the initial order, the Contractor must report it back accordingly. For instance: <ul style="list-style-type: none"> <li>• Key</li> <li>• LicensePlate</li> <li>• Manual</li> <li>• ServiceSchedule</li> <li>• SummerWheels</li> <li>• WinterWheels</li> <li>• VehicleRegistrationDocument</li> </ul>		
<b>VehicleID</b>	Number to identify the vehicle for the service order <ul style="list-style-type: none"> <li>• VIN</li> </ul>		

	<ul style="list-style-type: none"> <li>• ProductionNumber (if no VIN is available yet)</li> </ul>
<b>Model</b>	<p><i>Optional: Modellinformationen zu Vehicle</i></p> <ul style="list-style-type: none"> <li>• Name: Model designation</li> <li>• Version (optional): 3- or 6-digit model key for Volkswagen AG vehicles</li> <li>• Manufacturer</li> <li>• ModelGroup: Model Class 1-6</li> <li>• ProductType</li> <li>• FuelType</li> </ul>
<b>StartDate</b>	<p><i>Optional: Time of start of the execution of the service order</i></p> <ul style="list-style-type: none"> <li>• Actual: Actual start time</li> <li>• Confirmed: Confirmed start time</li> <li>• Estimated: Estimated start time</li> <li>• Requested: Requested start time</li> <li>• Updated: Updated start time</li> </ul>
<b>CompletionDate</b>	<p><i>Optional: Time of completion of the execution of the service order</i></p> <ul style="list-style-type: none"> <li>• Actual: Actual closing time</li> <li>• Confirmed: Confirmed closing time</li> <li>• Estimated: Estimated closing time</li> <li>• Requested: Requested closing time</li> <li>• Updated: Updated closing time</li> </ul>

### 6.5.3 Time of transfer

In principle, service orders can be submitted to the Contractor by the Client at any time. The deadline for responding to the service order may vary between the different services and is determined by the contract currently valid for this service and this Contractor.

In the case of used vehicle transports of the order type "Collection", the service "Record license plate number and registration certificate part 1 and send to a deregistration service provider" and the transport order are closely linked. Therefore, in this case, the transport order and the service order for a corresponding vehicle are created and sent promptly. If a transport order is canceled by the client, the client also sends an explicit cancellation of the service order in addition to the cancellation of the transport order. There is always an associated transport order for this special service order.

## 7 Interface test and error handling

### 7.1 Testinterface

A test interface is provided for the outbound order book on which generic test data is continuously generated. The test interface can therefore be used to implement the interface independently of coordination with Volkswagen Group Logistics.

The test interface differs from the productive interface only by a separate host name. The host-names currently used can be found in the OpenAPI specification (see <https://rio.cloud/de/apis/finished-vehicle-logistics>).

Authentication on the test interface is carried out with the same access data as on the productive interface. No separate access data is currently assigned.

### 7.2 Error Handling

In the event of an error, the interface provides descriptive error messages that indicate incorrect handling of the interface or the FVL messages during error analysis.

The service provider is expected to analyze the error messages independently during development and only contact RIO Support if there are any uncertainties.

During productive operation of the interface, the service provider is expected to implement active error handling and process the error messages accordingly. Volkswagen Group Logistics does not check rejected messages.