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NATIONAL ECONOMY RESOURCE CAPABILITY FOR PRODUCTION RECYCLING EQUIPMENT FOR MOTOR VEHICLES

Abstract: Elements of the resource capacity of the national economy for producing mobile press for cars recycling are given in this paper. Given a concrete producers offer from Serbia who can produce mobile press for cars recycling.

Keywords: cars recycling, resource capacity of national economy

1. INTRODUCTION

In each of the used motor vehicles pose a major problem for the environment, both in terms of volume of waste and the number of hazardous substances from which they are built. That was the main reason that developed countries adopt and implement adequate legal acts which runs organized recycling of motor vehicles at the end of the life cycle. On the other hand develop models for managing waste generated by motor vehicles during the entire life cycle, which are based on the principles of sustainable development. Thus minimizing waste and maximizing recycling and reuse of materials parts and components and aggregates.

Critical analysis of the development of international experience in the management of the flow of materials from ELV vehicles can be seen steady progress. The perceived problems and their science and the economy operates with varying degrees of success. However, the most important is the constant improvement of the existing system and its response to new problems. The level of development of our system is small. For this reason it is necessary to monitor the use and good results at the global level and in phases to

develop and upgrade our existing system.

2. NATIONAL RESOURCE CAPACITY FOR PRODUCTION MOBILE PRESS

2.1. Technical description of mobile press

The proposed solution for the mobile press has hydraulic system [1], which will be driven by diesel engine (choice of designer-supporting structure 90 or 110 hp). Hydraulic pump 3112.750.02C/DL through the adapter and electro-pneumatic system includes a valve and relieve (when empty-no load). Through the distribution of electromagnetic control valve is controlled with hydraulic cylinders work individually or in a semi-automatic operation (all these actions are achieved thanks to the convenient automatic-entry 4 in Table 1). Mode is determined by selecting the program on the condition that the cylinder pressure can be pressed when you press the lids closed (resolved with inductive switches). The hydraulic system provides, thanks to the selected pressure valve protection, ie. achieving the required pressure ($p = 250\text{bar}$). The hydraulic

system has the ability to master cylinder for pressing work individually and in tandem-together. Their extraction is implemented to achieve maximum pressure, which is secured by push switches are installed in the branch pressure. Measurement and control of pressure measuring points are and where we adjust its control.

Automation is allowed to choose the desired program and the project is designed and the corresponding signals of certain desirable and undesirable condition (dirty, return filters, the oil level in the tank, the existence of pressure in the hydraulic system, closed lids, etc.). It is designed with a pneumatic system for grease (lubricant 16 seats), which uses air pressure obtained from a built-in compressor drive motor. For achieving this, you need to provide the appropriate devices and elements, as can be seen from the table attached to this text.

Based on the above principles of selection and the necessary components are defined frame rates for full implementation. For a detailed analysis of the complete issue following a subsequent agreement and correct any ambiguity or confusion.

2.2 Business Processes in Procurement

Starting with the key objective of procurement to ensure continuity of production and economic operating system, its place and role in the provision of necessary inputs, it is possible to identify the structure of all the activities and processes which are continually taking place in a logical and meaningful way. This structure has the following form:

- definition of the purchasing policy as a set of relevant principles relating to procurement, price, quantity, quality, timing and stock,
- production of a procurement plan, which is the operating plan setting out

the specific procurement of different types of materials - the types, quantities and terms in order to obtain materials in accordance with the rate of production and maintenance of necessary supplies, to ensure continuity of production and avoid extremes in stock (or lack of accumulation of material),

- seeking bids by sending the appropriate form (forms) to different addresses of potential suppliers, establishing direct communication or through the ads in the press, the Internet,
 - Selection of suppliers based on nominal elements in the collected offerings, such as quality, quantity, price, delivery terms and conditions that must be agreed to certain dynamics and investment policy of rational supplies,
- preparation of orders that the supplier must transfer appropriate technical, commercial and legal requirements and contain the necessary criteria drives supplier to perform the defined terms and to be arranged in a way that excludes the additional interventions and linguistic ambiguity,
- control the execution of orders based on the need to check the order of elements, which are related to the quality of materials and delivery deadlines,
- development of putting an end to claims resulting from errors or omissions in the delivery of materials, correction, the replacement of materials or restitution, compensation of damage that occurs due to lack of materials and interruption of the production process,
- change the terms of delivery for additional requirements and production needs, market changes, difficulty in paying, etc.,
- storage, as well as the process of receiving the purchased material -

through quantitative and qualitative receipt; process of preserving, storing and securing the conditions necessary for the protection of purchased materials; issue, as the process of counting and classifying materials and the end-user; recording process on the basis of which is determined by the business warehouse and inventory which compares the actual situation of inventories as that shown in the records,

- monitoring the quality of suppliers and defining the measures that can improve the quality of delivery and the relationship of business partners.

In order to improve the supply system, it is necessary to systematically describe and prescribe ways:

- the selection of suppliers and contracting system,
- the valuation or suitability of suppliers, those who are candidates for establishing appropriate business relationships,
- the conquest and verification of suppliers and products,
- the planning and implementation of procurement (materials, machinery, tools, equipment),
- the receipt, storage, storage (accommodation) and the publication of materials,
- the recording of procurement, inventory, etc.,
- the inspection and testing of received materials
lack of advertising material received,
- research on the procurement market, especially in terms of changes occurring on the supply and demand coordination of procurement to other parts of the organization, such as manufacturing,
- accounting, and strategic marketing,
- the borrowing documents, checking invoices and orders for the payment of

obligations arising from the activities of the purchasing function.

The demand for mobile presses depend on numerous factors such as:

- phase productive life of the product,
- economic predictions - and the trade cycle
- changes in working competitors,
- changes in the duration of life of the car.

2.2.1 Promotion of mobile press

Promoting cell presses for molding automobile body needs to achieve added value in several ways:

- creates a certain image,
- good reputation of products and companies in the consumer reduces the perception of risk,
- Some elements of promotional activities directly represent an added value for the purchase and
- subsequent reassurance after buying a product, it means a lot to customers who may have doubted the correctness of his choice.

2.2.2 The human factor

To achieve a maximum in the placement of mobile presses for molding automobile body is required:

- hire the right people;
- allow them to improve in my job enables them to engage in consumer issues;
- support them in their efforts to improve service;
- motivate them to take care of the customer and the quality of services;
- support them and help them get started.

2.3 Summary of components and cost for mobile adjudication of domestic suppliers

For the production of mobile presses for molding of automobile company block signal from the niche is technologically

and staffed, and all necessary components can be supplied from the company first Petoletka from Trstenika. Table 1 date and price components for mobile press the company first Petoletka from Trstenik. In Table 2 given the price of mobile press transport unit.

Table 1. Date and prices

No.	System (component)	Pcs (set)	Supplier offer	Note
1.	Diesel motor (90 iči 110 KS)	1	Use existing (transport)	Upgrades to the system to install and activate the pump
2.	System to turn on the pump (adapter and pneumatics)	1		350€
3.	Hydraulic system presses Variant IR(RPIH-8429) Variant II(RPIH-8429/1)	Set	PPT-Hidraulics 04-130328/13 04-130329/13	1.046304,00 1.495896,00
4.	Hydraulic cylinders -set-	(2+2+2)	PPT- cylinders	
5.	pneumatic system (preparation of the air and the possibility of lubricating grease 16)	Set	PPT- Brake PPT- industrial	1500€ 2500€
6.	The control system of press 13021301	1	INDEL-KONTROL V.Banja	2586€
7.	Making (scheme, description, instructions) and documentation of Built condition		Along with equipment suppliers	2000€
8.	Installation of pneumatic and hydraulic system in Trstenik			3000€
9.	Project control			1000€

Table 2. Price of mobile press transport unit

No.	Product	Price (RSD)	The year of production
1	The main transport unit - truck	about 30000000,00 (for 1 pcs)	2014
2.	Press	about 8000000,00 (for 1 pcs)	2014
Σ		38000000,00	2014

3. TRUCK PLATFORM THAT CAN SUPPORT THE CARRIAGE AND THE EXPLOITATION OF AUTOMOBILE BALING

The company SCHWARZARZUMULER produces typical truck trailers that can meet the mobility and the use of baling presses shells cars. Below are given the necessary information for supporting and exploiting the use of these machines.

Technical specifications: Tractor FH 460.42 T, rear air suspension.

The main components

Country of registration: Serbia

- Chassis height (1050-1150) mm
- Cabin: high - Globetrotter, type L2H2
- Euro 5 SCR emissions
- Checking the exhaust gas with 40% reduction in the time
- Engine: Diesel, 3 liter Euro 5 SCR type D13C460, max power 460KS max torque 2300Nm.
- Engine brake: VEB + Volvo Engine Brake special power 375 kW at 2300 r / min
- Transmission: Automatic, I-Shift with 12 gears, type AT2612D., Max torque 2600Nm
- Software for fuel economy and I shift transmission
- Manual operation in the automatic mode
- Single plate clutch, 430 mm
- Wheelbase 3700 mm
- Front axle 7.1 t
- Front suspension Parabolic
- Front stabilizers, high stiffness
- Rear suspension: air, 4 airbags
- Recent solo axle 13 t, type RS1356SV for a total gross capacity rig 56 t
- Transmission ratio rear axle 2.79
- Rear axle load 13 t

- Rear stabilizers - rear shock absorber echelonTech. total weight of 39 t at 12 t load saddle
- Weight units approx. 5,9 t
- Internal dimensions of the bridge ca. 13.620/2.480 mm
- Semi-horizontal position at a height of 1,150 mm saddle
- Loading height ca. 125 mm above the saddle
- Framework
- Welded steel frame construction - reinforced the point load of 25 t 4.000mm in the center of gravity.
- Removable central pillar 2 "(EC-mountable measures). Towing rings 23 pairs of 2.5 t according to UVV.
- Air suspension with raise / lower (ca. +120 / -80 mm).
- Mercedes - axle air suspension with disc brakes Ø 370 mm, 3 x 9 t
- Wheelbase 1,310 mm x 2
- Tires / includes spare wheel /:
- 7 pcs. 385/65 R 22.5 on steel wheels 11.75 x 22.5, 120 mm depth of compaction.
- Retaining device
- Mehan. 2 x 12 t cranes supporting the 1-side queuing is little maintenance.
- Brakes / EC Recommendation 71/320 resp. ECE R13 /
- The braking system of a double action with a 2-axis ustavljačem EBS - electronic braking system (Wabco 2S2M) RSS - Stability program; steel air reservoir
- Warranty & Delivery
- The warranty on the complete vehicle is 24 months from the date of delivery.



Figure 1a.



Figure 1b.

- The fuel filter is electrically heated
 - Help with ignition
 - PTO: With the lever. Type PTR-DH
 - Adapter PTO for automatic transmission
 - Hydraulic pump: piston-axial, Type Voac F1-61
 - Building on the chassis
 - Mounting saddle: the profile, type L PRO
 - Plate height 200 mm Saddle
 - Wheel height of land approximately 1150 mm
 - Saddle: JOST type JSK42K / JSK 37C / E
 - Hole saddle 50 mm (2 ")
 - Position the saddle: 575 mm in front of the rear axle
 - Trails behind the main cabin
 - Work lamp for trailer, white
 - Trailer brake connections to the EU regulations
Cables trailers, 2x7-pin
 - Detection trailers, LED sensor
 - Electronic Brake Control Trailer
 - Wiring for 6 additional switch
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- Wheels and tires steel wheels
 - The front tires 315/70R22.5 Bridgestone R297 ECO L
 - Rear tires 315/70R22.5 L Bridgestone M729
 - Driveline equipment
 - Compressor, 1080 l / min
 - High air intake
 - Air filter with extra filter
 - Alternator, 110A
 - External noise is 80dB, the EC Directive
 - Motor housing open
 - Cooling capacity of 48 ° C
 - Transmission oil cooler

4. CONCLUSION

For the realization of mobile presses for molding automobile body resource capabilities of Serbia can support the entire production and Truck platform must be purchased from authorized distributors for import trucks.

- The list of possible sources of information about all the competitors for all components and products should include:
- Employees in the retail and distribution sector should be often and in direct contact with representatives of competing companies, so the first to find out about some of the changes, but preparation of new products, sales bonuses higher than expected, and so on.

- Something can be learned at various conferences, magazines, exhibitions, conferences and celebrations.
- Future users of our products should explain to us why they just chose our product over the competition.
- You need to look for prospects, as well as a demonstration of the product from the competition. Annual reports and promotional material usually do not say much, but sometimes quite openly.
They will serve a broader sense, be indicators of performance, which can be useful, but one should be careful in accepting this information as reliable.

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